FINAL

Environmental Assessment for the Proposed Construction of an Entomology Facility and Demolition of the Existing Entomology Facility at Buckley Air Force Base, Colorado

Prepared for:
460 CES/CEVP
Buckley Air Force Base
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14. ABSTRACT

The purpose for the proposed action is to update and centralize entomological activities at BAFB. The current entomology facility (Building 306) built in 1994, is functional however, due to the need to meet the specifications of the Military Construction Handbook and Air Force Instruction 32-1053, Pest Management Program, the entomology facility needs to be updated to more efficiently process, distribute, store, recycle, and reuse pesticides. Additionally land uses adjacent to the current facility are shifting from industrial to commercial/retail and residential. This change in land use, suggests that the facility should be relocated to an industrial area that centralizes all civil engineering functions into one area of the installation. Alternatives considered for this proposed action include (1) the no action alternative and (2) the construction of an annex to the existing entomology facility. This EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of constructing and operating an entomology facility and demolishing the existing entomology facility located at Building 306. Under the no action alternative, entomological activities would continue at the current location. The environmental resources potentially affected by the proposed action and alternatives include surface water resources and stormwater; air quality; biological resources, including vegetation wildlife, and threatened and/or endangered species; social or economic resources, including environmental justice; land use and transportation; public utilities; and hazardous materials and substances. Based on the nature of the activities that would occur during construction/operation of the entomology facility and the demolition of the existing entomology facility, the U.S. Air Force has determined that minimal or no adverse impacts to the above resources are anticipated.

15. SUBJECT TERMS

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Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

FINDING OF NO SIGNIFICANT IMPACT FOR THE PROPOSED CONSTRUCTION OF AN ENTOMOLOGY FACILITY AND DEMOLITION OF THE EXISTING ENTOMOLOGY FACILITY AT BUCKLEY AIR FORCE BASE, COLORADO

Agency
U.S. Air Force, 460th Air Base Wing

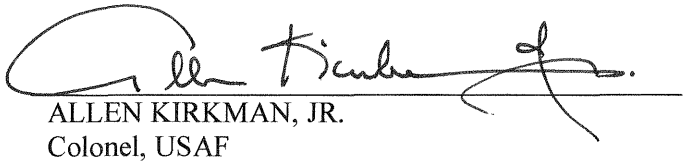
Background
The attached environmental assessment (EA), dated June 2003, analyzes the potential for impacts to the environment as a result of construction/operation of an entomology facility and the demolition of the existing entomology facility at Buckley Air Force Base (BAFB), Colorado. This EA was prepared in accordance to 32 Code of Federal Regulations (CFR) §989, which, in turn, implements Section 102 (2) of the National Environmental Policy Act (NEPA) and the regulations established by the Council on Environmental Quality (CEQ).

Proposed Action
The proposed action and alternatives included (1) construction/operation of an entomology facility near the Civil Engineering Complex and the demolition of the existing entomology facility, Building 306 (Proposed Action); (2) construction of an annex to the existing entomology facility, Building 306 (Alternative 1); and (3) the no action alternative.

Factors Considered in Determining That No Environmental Impact Statement is Required
The EA, which is incorporated by reference, analyzed the environmental impacts of implementing the Proposed Action, Alternative 1 and the No Action Alternative taking into account all relevant environmental resource areas and conditions. The U.S. Air Force has examined the following resource areas and found that implementing the proposed action or alternatives, including the no action alternative, would not result in any significant impacts: surface water resources and stormwater; air quality; biological resources, including vegetation, wildlife, and threatened and/or endangered species; social or economic resources, including environmental justice; land use and transportation; public utilities; and hazardous materials and substances.

Public Notice
NEPA, 40 CFR §1500-1508, and 32 CFR §989 require public review of the EA before approval of the finding of no significant impact (FONSI) and implementation of the Proposed Action. The public review period ended on 21 June 2003.

Finding of No Significant Impact
Based on the requirements of NEPA, 40 CFR §1500-1508, and 32 CFR §989, I conclude that the environmental effects of implementing the proposed action or alternatives are not significant, and therefore, an environmental impact statement will not be prepared. A notice of availability for public review was published in the Denver Post on 07 June 2003 indicating a 15-day review period. A hard copy of the Draft EA and Draft FONSI was placed in the Denver and Aurora public libraries for dissemination. The signing of this FONSI completes the USAF Environmental Impact Analysis Process.



18 SEP 2003

ALLEN KIRKMAN, JR.
Colonel, USAF
Commander, 460th Air Base Wing

Date

COVER SHEET
ENVIRONMENTAL ASSESSMENT
FOR THE PROPOSED CONSTRUCTION OF AN ENTOMOLOGY FACILITY AND DEMOLITION OF THE EXISTING ENTOMOLOGY FACILITY AT BUCKLEY AIR FORCE BASE, COLORADO

Prepared by
Headquarters Air Force Center for Environmental Excellence
Brooks Air Force Base, Texas 78235-5122

a. **Responsible Agency**: U.S. Air Force, 460th Air Base Wing

b. **Proposed Action**: Construct and operate an entomology facility near the Civil Engineering Complex and demolish the current entomology facility (Building 306) at Buckley Air Force Base (BAFB), Colorado.

c. **Written comments and inquiries regarding this document should be directed to**: Elise Sherva, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551; telephone (303) 677-9077; e-mail elise.sherva@buckley.af.mil.

d. **Designation**: Environmental Assessment (EA)

e. **Abstract**: The purpose for the proposed action is to update and centralize entomological activities at BAFB. The current entomology facility (Building 306) built in 1994, is functional; however, due to the need to meet the specifications of the Military Construction Handbook and Air Force Instruction 32-1053, *Pest Management Program*, the entomology facility needs to be updated to more efficiently process, distribute, store, recycle, and reuse pesticides. Additionally, land uses adjacent to the current facility are shifting from industrial to commercial/retail and residential. This change in land use, suggests that the facility should be relocated to an industrial area that centralizes all civil engineering functions into one area of the installation. Alternatives considered for this proposed action include (1) the no action alternative and (2) the construction of an annex to the existing entomology facility.

This EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of constructing and operating an entomology facility and demolishing the existing entomology facility located at Building 306. Under the no action alternative, entomological activities would continue at the current location.

The environmental resources potentially affected by the proposed action and alternatives include surface water resources and stormwater; air quality; biological resources, including vegetation, wildlife, and threatened and/or endangered species; social or economic resources, including environmental justice; land use and transportation; public utilities; and hazardous materials and substances. Based on the nature of the activities that would occur during construction/operation of the entomology facility and the demolition of the existing entomology facility, the U.S. Air Force has determined that minimal or no adverse impacts to the above resources are anticipated.

f. **Comments must be received by: 21 June 2003**

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SECTION 1.0
PURPOSE OF AND NEED FOR THE ACTION

This environmental assessment (EA) was prepared in accordance with 32 Code of Federal Regulations (CFR) §989, which, in turn, implements Section 102 (2) of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 to 4370d), as implemented by the regulations promulgated by the Council on Environmental Quality (CEQ) (40 CFR §1500-1508). The principal objectives of NEPA are to ensure the careful consideration of environmental aspects of proposed actions in federal decision-making processes and to make environmental information available to decision-makers and the public, before decisions are made and actions are taken. This EA has been prepared by the U.S. Air Force (USAF) to assess the environmental effects resulting from the proposed construction and operation of an entomology facility and the demolition of the existing entomology facility at Buckley Air Force Base (BAFB).

1.1 INTRODUCTION AND BACKGROUND

BAFB encompasses approximately 3,313 acres adjacent to the City of Aurora, Arapahoe County, Colorado (Figure 1-1). BAFB lies within the Denver metropolitan area. On 01 October 2000, Buckley Air National Guard Base (BANGB) was realigned into BAFB under the direction of the 821st Space Group. One year later, the 460th Air Base Wing (460 ABW) was activated as the host of BAFB when the 821st Space Group was inactivated. The 460 ABW is part of the 14th Air Force, based at Vandenberg, California (BAFB 2002a). The mission of the 460 ABW is to operate BAFB and provide superior support and services to the base operational mission, to the Front Range Area Defense community and their families, and to the retiree community within the Denver metropolitan area (BAFB 2002b). The current population of BAFB includes 3,346 active duty personnel, 1,561 Colorado Air National Guard (COANG)/USAF reserves, 2,171 U.S. Army/Navy/Marine reserves, approximately 1,100 civilian employees, and approximately 1,400 contract employees. The tenant units at BAFB are listed in Table 1-1; however, this list is not inclusive since units tend to change over time.

1.2 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS AT BUCKLEY AIR FORCE BASE

Within the BAFB General Plan, a list of facilities/areas proposed for construction between Fiscal Year 2002 (FY 02) to FY 13, totaling greater than one million square feet (SF), was developed (BAFB 2002b). Approximately 50 activities/facilities have been identified as needed for successful operation of BAFB and to improve the quality of life for active, reserve, and retired members of the armed services living in the Denver metropolitan area. Within the past two years, construction has been completed on a new base exchange/commissary (185,000 SF) and a space-based infrared surveillance

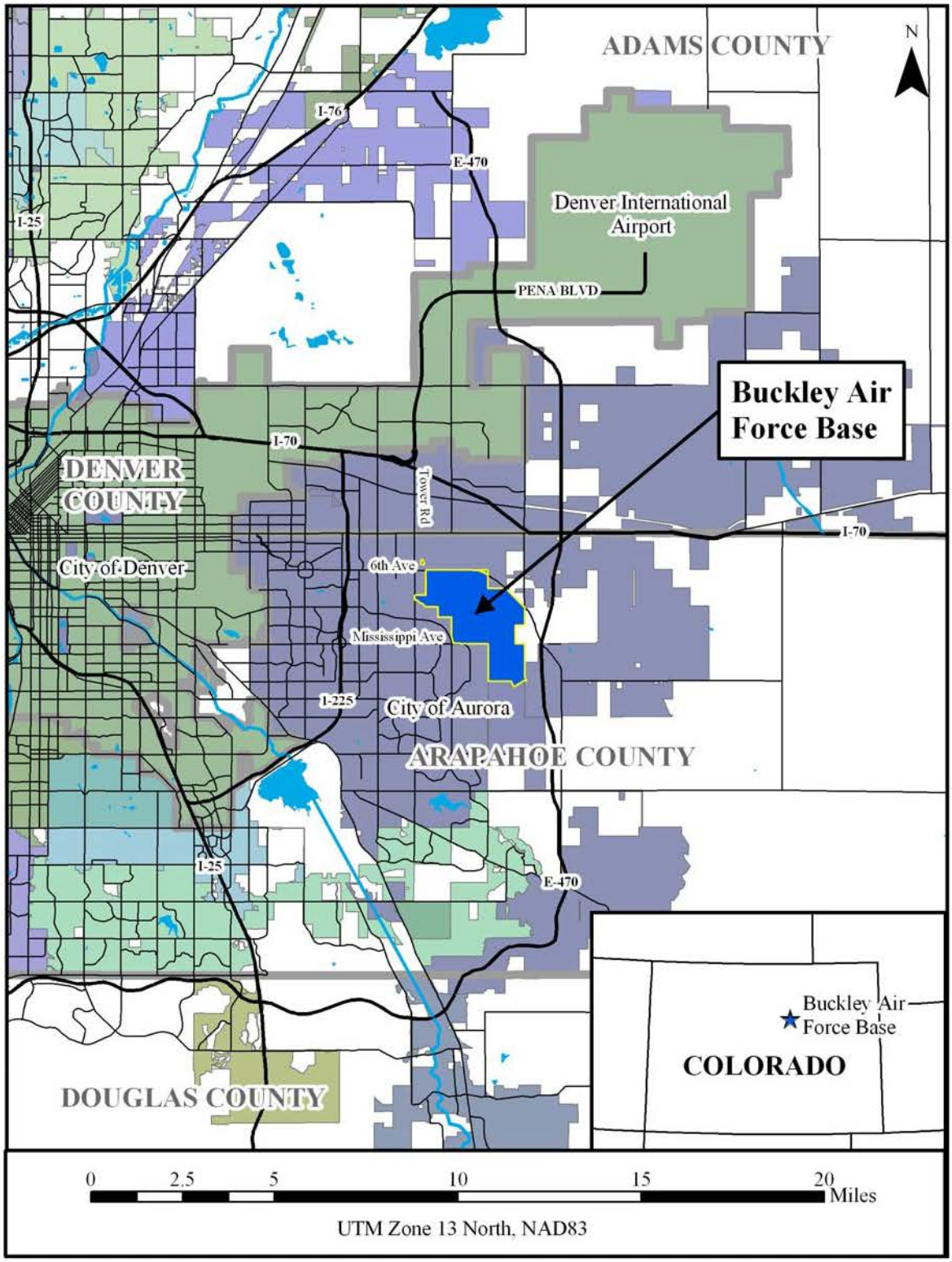

Figure 1-1. General Location of BAFB

Table 1-1
Tenant Units on BAFB

- 1st Battalion, 89th Troop Command (Army)
- 2nd Space Warning Squadron
- 8th Space Warning Squadron
- 120th Fighter Squadron
- 140th Wing, COANG
- 240th Civil Engineering Flight
- 169th Field Artillery Brigade, COARNG
- 743rd Military Intelligence Battalion
- Aerospace Data Facility
- Air Force Accounting and Finance Office
- Army/Air Force Exchange Service
- Battery A, 1st Battalion, 14th Marines
- Company A, Marine Support Battalion
- COARNG
- Civil Air Patrol Combined Task
- Defense Commissary Agency
- Defense Contract Manager
- Department of Military Affairs
- Detachment 4, Air Force Operational Testing and Evaluations Center
- Detachment 801, Air Force Office of Special Investigations
- Detachment 45, Air Force Technical Applications Center
- Navy and Marine Corps Reserve Centers, Naval Air Reserve Center, Denver
- U.S. Property and Fiscal Office for Colorado
- U.S. Army Corps of Engineers
- U.S. Military Entrance Processing Command

COANG = Colorado Air National Guard
COARNG = Colorado Army National Guard
Source: 460th Air Base Wing Directory 15 January 2003

(SBIRS) antenna. Planned construction of approximately 883,000 SF is expected within the next four years (FY 02-FY 05); however, timelines are subject to change and projects may be constructed at an earlier or later date. The entomology facility would account for approximately 2,255 SF of this total in FY 03 (Table 1-2). Currently, BAFB has 156 buildings with approximately 2.2 million gross SF of occupiable floor space (BAFB 2002b). Using an estimate of 90 percent of occupiable SF, BAFB would contain approximately 2.0 million SF of parking for a combined 4.2 million SF of developed surface.

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose for the proposed action is to update and centralize entomological activities at BAFB. The current entomology facility (Building 306) built in 1994, is functional; however, due to the need to meet the specifications of the Military Construction Handbook and Air Force Instruction (AFI) 32-1053, *Pest Management Program*, additional space is required to more efficiently process, distribute, store, recycle, and reuse pesticides. Additionally, land uses adjacent to the current facility are shifting from industrial to commercial/retail and residential. This change in land use, suggests that the facility should be relocated to an industrial area that centralizes all civil engineering (CE) functions into one area of the installation.

1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This EA addresses the potential impacts to surface water resources and stormwater; air quality; biological resources, including vegetation, wildlife, and threatened and/or

Table 1-2
Scheduled Facility Projects at BAFB

FY 02
- Physical Fitness Center[1]
- 2nd Dormitory (144)
- Military Family Housing[1]
- Telluride/6th Avenue Entry Gate

FY 03
- 460 ABW Headquarters
- ADAL SBIRS Mission Control
- Visitors' Quarters/Temporary Lodging Facility
- Car Wash (AAFES)
- Control Tower (COANG)
- Fire Station Addition
- Engine Shop Addition, Building 960 (COANG)
- Repair Runway, Taxiways, Ramps (COANG)
- Repair Fuel Cell/Corrosion Control, Building 800 (COANG)
- Entomology
- H-70 Fuel Storage Facility
- Golf Driving Range (NAF)
- Addition to Child Development Center
- Civil Engineering Warehouse

FY 04
- Upgrade BAFB Infrastructure, Phase III
- Air National Guard Civil Engineering Complex
- Approach Lighting (COANG)
- Repair COANG Supply, Building 841 (COANG)
- Repair COANG Parking Lots (COANG)
- Maintain Maintenance Hangar 801 (COANG)
- ADAL Airfield Access Roads (COANG)

FY 05
- Repair Taxiways A & K
- Chapel Center
- Child Development Center
- Athletic Fields
- Outdoor Recreation Equipment Rental (NAF)
- ADAL Medical Clinic
- Hazardous Waste Storage Facility
- Hazardous Materials Issue Facility
- Army Aviation Support Facility (COARNG)
- Permanent Alert Shelters & Crew Quarters (COANG)

FY 06
- Medical Pharmacy
- Leadership Development Center
- Consolidated Fuels, including Military Gas Station
- Logistics Complex
- Consolidated Services Facility
- Security Forces Operations Facility
- Education Center
- Youth Center (NAF)
- Ball Field Concession (NAF)

FY 07
- ADAL Communications Center, Building 730
- Outdoor Arms Range
- Vehicle Maintenance Facility

FY 08
- Third Dormitory
- Widen 6th Avenue
- Fire Training Facility
- Consolidated Base Warehouse

FY 09
- Upgrade Infrastructure – Phase IV
- Fitness Center Addition

[1] These projects were carried into FY 03
AAFES =Army/Air Force Exchange Service
ADAL =Addition/Alteration
COANG =Colorado Air National Guard
COARNG =Colorado Army National Guard
NAF =nonappropriated funds
Source: 2nd Quarter BAFB Facilities Board, 10 March 2003

endangered species; social or economic resources, including environmental justice; land use and transportation; public utilities; and hazardous materials and substances. The applicable regulatory requirements for each of the resource areas are also identified, as well as the existing conditions of each resource area on the installation.

The NEPA and CEQ regulations require that the environmental effects of proposed actions and alternatives be considered in the decision-making process. Preparation of an environmental document (this EA) must precede final decisions regarding the proposed action, and be available to inform decision-makers and the public of potential environmental consequences/impacts. The development of this EA allows for public consideration and input concerning the implementation of the proposed military construction and operation of an entomology facility at BAFB, which includes the demolition of the existing entomology facility, Building 306. This EA provides the decision-makers and the public with the information required to understand the possible future environmental consequences/impacts of implementing the proposed action or alternatives. The decision to be made, after a review of the analysis presented in this EA, would be whether to issue a finding of no significant impact (FONSI) or to proceed with the implementation of an environmental impact statement (EIS) to further quantify and detail the potentially significant impacts resulting from implementation of the proposed action or alternatives. While this EA provides information with which to make better decisions about proposed actions, it does not imply project approval or authorization, which is obtained through the 460 ABW Facilities Board.

1.5 ORGANIZATION OF THE ENVIRONMENTAL ASSESSMENT

This document follows the format established in 32 CFR §989 implementing the CEQ regulations (40 CFR §1502). The document consists of the following sections:

Section 1.0 – Purpose of and Need for the Action: presents a brief description of the background of the installation; the past, present, and reasonably foreseeable future actions on BAFB; the purpose and need for the proposed action; the scope of the environmental review; and a brief description of the EA organization.

Section 2.0 – Alternatives Including the Proposed Action: provides a detailed description of the selection criteria and descriptions of the proposed action and alternatives. Section 2.0 also contains an alternatives comparison matrix.

Section 3.0 – Affected Environment: presents the existing baseline environment or present condition of the area(s) potentially affected by the alternatives identified to implement the proposed action. Each environmental resource potentially impacted by the implementation of the proposed action and alternatives is discussed, as well as the regulatory background, if applicable, for each impacted resource area.

Section 4.0 – Environmental Consequences: provides the scientific and/or analytical basis for comparing the alternatives and describes the probable consequences of each alternative on relevant environmental attributes.

Section 5.0 – List of Preparers: provides a list of the document preparers and contributors.

Section 6.0 – Distribution List and Agencies and Individuals Contacted: provides a list of persons/agencies contacted in the preparation of this EA.

Section 7.0 – References: provides a list of references used in the preparation of this EA.

Section 8.0 – Acronyms and Abbreviations: provides a list of applicable acronyms and abbreviations used throughout the text.

Appendices: provide background and supporting information to this EA, as necessary. Appendices included in this EA are Appendix A: USAF Form 813; Appendix B: Photograph documentation; Appendix C: Notice of Availability; Appendix D: Interagency Letters; and Appendix E: Comments and Response to Comments.

SECTION 2.0
ALTERNATIVES INCLUDING THE PROPOSED ACTION

This section of the EA describes the proposed action and the alternatives developed by BAFB. This section also describes the process used to objectively identify the reasonable alternatives carried forward for detailed environmental analysis, as well as the reasoning for elimination of alternatives. A comparative summary of the proposed action, alternatives, and how they do or do not meet the selection criteria identified in Section 2.1 is also included.

2.1 IDENTIFICATION OF SELECTION CRITERIA

In an effort to satisfy the purpose and need for the proposed action, several selection criteria were developed to compare and contrast alternative ways of fulfilling the objectives of the proposed action in accordance with 32 CFR §989.8(c). Those specific criteria include:

1. **Locate with access to utilities, such as electricity, water, and sewer**. BAFB would like to locate the entomology facility in an area that has current connections to public utilities. By locating in an area such as this, BAFB is eliminating the costs associated with extensive utility installation in previously undeveloped areas.

2. **Locate within a compatible land use zone**. Given the mission of the 460 ABW and the flight operations of the 140th Wing of the COANG, special consideration must be given to placement of the facility in a compatible land use area. Areas that would not be considered compatible would be residential, residential related (i.e., schools, churches, hospitals), and runway clear zones.

3. **Locate in a previously disturbed area**. BAFB would like to limit the amount of development occurring on undeveloped portions of the installation. Additionally, cost savings could be generated through the reuse of previously disturbed portions of the installation.

4. **Locate in a site that centralizes all CE functions**. The site should also be within walking distance from the current CE Complex (Buildings 1001, 1002, 1004, 1005, 1006, 1007, 1009, and 1010) to ensure centralization of all CE functions. Given the nature of the facility, it should also be located with direct access to the installation road networks. This would limit the distance and amount of time pesticides are in transit.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The proposed action would include the construction of an approximately 2,255 SF single-story building with a split face concrete masonry unit (CMU) exterior, and standing seam metal roof. Special provisions at these facilities would include spill containment and recovery systems, emergency eyewash and shower stations, fire protection, and pre-wiring for communications. The facility would also contain a customer service area, a management/administration area, and a staging, separation, and reutilization area, including a special tank for cleaning and recycling pesticides. These process areas would be isolated or contain blocked drains; therefore, eliminating the potential for discharge to the sanitary sewer system. The new facility and additional roadways would be constructed near the current CE Complex (Figure 2-1). The additional roadways/driveways would account for approximately 1,800 SF of solid surfaces. All activities currently taking place at Building 306 would be relocated to the new facility once it was operational and then demolition would begin on Building 306. The proposed action would meet the selection criteria detailed previously. More specifically, this action:

1. Would be located at a site that currently has utilities, such as electricity, water, and sewer.

2. Would be located at a site that is within a compatible land use zone.

3. Would be located at a site that has been previously or currently is disturbed.

4. Would be located at a site that is centralizes CE functions and creates direct access to the installation road networks.

2.2.1 Construction and Demolition Activities

The footprint of this facility would provide an interior capacity of approximately 2,255 SF, and all construction activities would occur entirely within a 1.0-acre site on BAFB. As mentioned previously, the facility would be a single-story building with a split face CMU exterior, and standing seam metal roof. Adjacent to this facility, a gravel driveway/roadway, of approximately 1,800 SF, would also be constructed. All Government-owned vehicles would be parked within the building or enclosed garages, when parked for an extended period. Access to these facilities would be through the parking area of the CE Complex or new interior roadways.

Additional parking and roadway materials, such as asphalt and concrete, were considered. Asphalt was eliminated as an acceptable material due to its porosity, which could spread potentially hazardous spills into local water resources. Additional concrete surfacing was eliminated, due to its cost, in comparison with gravel-surfaced roadways.

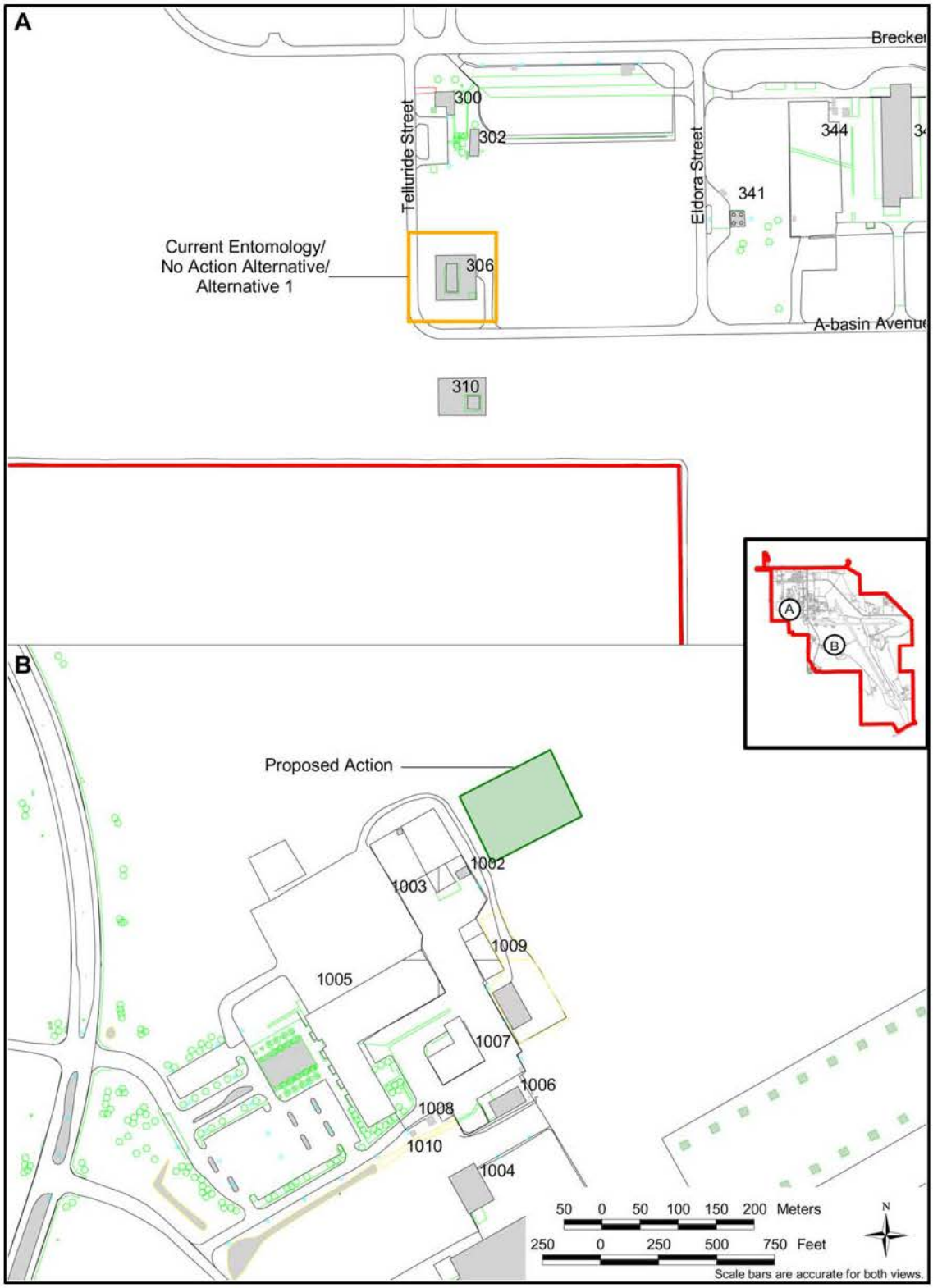

Figure 2-1. Location of the Current Entomology Facility, the Proposed Action, and Alternative 1

Construction would begin late FY 03 or early FY 04 and is anticipated to last approximately seven months; however, the timeline is subject to change and the project may be constructed at an earlier or later date or in different years. On-site construction equipment would include the use of heavy trucks or the equivalent. Additional light-duty equipment (e.g., generators, compressors) would also be utilized throughout the duration of activities. All equipment would likely come from local sources and would be brought to the site via local roadways. Equipment maintenance would be conducted off site by the contractor and in accordance with all applicable laws and regulations. Construction activities would typically occur eight hours per day (8:00 a.m. to 5:00 p.m., or the equivalent), six days per week (Monday through Saturday). A majority of the construction materials would likely come from local sources and would be stored at the site for the duration of activities. No grading plan is currently available; however, preliminary plans indicate that cut-and-fill materials would be balanced so that no new soils would be brought on site or existing soils removed. All construction debris would be recycled or disposed of at an approved landfill in accordance with all applicable federal, state, and local laws and regulations.

To reduce impacts to local and regional air quality, abatement measures, such as proper maintenance of construction vehicles to reduce combustive emissions, limiting the size of the disturbance area to one acre or less, and watering exposed soils at the beginning and end of daily construction activities with approximately 3,500 gallons would be implemented to minimize or prevent fugitive dust emissions. Additionally, stormwater best management practices (BMPs) would be implemented to avoid or minimize potential impacts from stormwater runoff. In addition to BMPs, extra-care would be taken when performing scheduled servicing of the catch basins, and any other stormwater collection points. This would ensure containment of construction debris, displaced silt, and fuel, oil, grease, and coolants from construction equipment, thereby reducing non-point sources of pollutants in stormwater flows. The stormwater system would be upgraded, as necessary, to support the proposed action. Black-tailed prairie dogs and burrowing owls would be managed, in accordance with the Supplemental EA of the Proposed Prairie Dog Management Practices at BAFB, dated June 2001.

Demolition of the current entomology facility (Building 306) would occur once the new facility was operational. Building 306 currently provides an interior capacity of approximately 1,160 SF. Prior to demolition, any water in the below-grade holding tank would be tested for pesticides and/or additional pollutants to determine whether the water should be released to the sanitary sewer per BAFB's current industrial pretreatment permit per Metro Wastewater or disposed of as a hazardous waste at an approved location. If water contamination were identified at the current facility, proper remediation techniques would be utilized. Sampling activities and any potential remediation would be coordinated with the Colorado Department of Public Health and Environment (CDPHE), Hazardous Materials and Waste Management Division.

Demolition debris would be recycled or disposed of at an approved off-base landfill in accordance with all applicable federal, state, and local laws and regulations. Though not

anticipated, any potentially hazardous materials or wastes (including potential asbestos-containing materials [ACMs], lead-based paint [LBP], and polychlorinated biphenyls [PCBs], if present) would be handled and disposed of in accordance with all applicable federal, state, and local regulations. Due to the building age, only PCBs would be anticipated from overhead light fixtures. Building 306 is within the footprint of former World War II buildings; there is the potential for subsurface ACMs (i.e., piping or building remnants). However, since the current entomology building was constructed after the demolition of World War II buildings, the majority of the subsurface ACMs should have been located during previous construction activities. BAFB is aware of the slight potential for ACMs at this site and would inform all contract personnel working at the site of this potential. Demolition activities would be halted upon finding any subsurface debris.

2.2.2 Permits and Notifications

A notice of intent (NOI), in accordance with BAFB's industrial pretreatment permit, would be filed with the Metro Wastewater Reclamation District at least one working day before the discharge of industrial wastewater from the below-grade holding tank at the existing entomology facility or chlorinated water discharge from the new entomology facility into the sanitary sewer system. As mentioned previously, the wastewater in the below-grade holding tank would be tested for pesticides and other contaminants prior to discharge. The testing would follow the guidance of Metro Wastewater's staff on sampling methods and types of analyses to obtain approval for the discharge. Chlorinated discharge would be used to disinfect the potable water system of the entomology facility prior to permanent occupation. The chlorinated water would remain within the new facility's potable water system for approximately 24 hours before being discharged. The amount of chlorinated water used for disinfection would be determined prior to acquiring the NOI. The chlorinated water would be discharged to the sanitary sewer or captured, dechlorinated (per the American Water Works guidelines), and used for irrigation, if practicable.

2.2.3 Operations

Operational activities at the new facility would be similar to activities occurring at the current facility, though more efficiently executed. Similar to the current facility, the new facility would be entirely enclosed within a standard chain-link fence per safety regulations. Additionally, parking for designated Government-owned entomology vehicles would be within the building or enclosed garage only, no personal vehicles would be allowed to park near the facility. Personal vehicles would be parked at the CE Complex parking area. Official vehicles could be parked inside the facility loading areas during inclement weather. If unexpected spills were to occur, spill containment measures would be implemented, which would include stopping the spill, cleaning any contaminated surfaces, and removing any contaminated materials (i.e., contaminated gravel).

A list of currently utilized pesticides and their quantities currently stored on BAFB is included in Table 2-1. All products are completely consumed through reuse. All containers are triple washed after application procedures to minimize future contamination. Future pesticide use would be expected to be approximately the same as current operations, which do not currently trigger Emergency Planning and Community Right-to-Know Act (EPCRA) Tier II standards. All materials would be stored where the building has secondary containment measures to prevent unregulated releases of any entomological substances within the environment.

Table 2-1
Name and Amounts of Current Pesticide Products Used at BAFB

Name	Pesticide Type	Amount	Units	Packaging
Krovar I DF	H	7	Pounds	Bag
Baygone	I	3	Gallon	Gallon
Phostoxin	I	18	Bottles	Bottles
Pyrethrin-12	I	8	18 oz Can	Cans
Tempo 20-WP	I	9	24 Pkts/Box	Box
Tempo SC Ultra-6	I	2	240 ml Bottle/Box	Box
Combat Roach	I	8	12 Stations/Box	Box
Smoke Cartridge	R	3	100/Case	Case
Mosquito Dunks	B	2	5 Trays of 20	Trays
Boric Acid	B	7	10 – 10 oz Bags	Bags
Round-up Pro	H	31	2.5 Gallons	Container
Broadlfacoum	R	3	Pail	Pail
Insect Repellent	I	6	Ounces	Can
Maxforce	I	5	24/Box	Box
Oust-DG-XP	H	1	3-Pounds	Bottle
Deltadust	I	70	Pound	Pound

H = herbicide
I = insecticide
R = rodenticide
B = botanicals

2.3 ALTERNATIVES TO THE PROPOSED ACTION

2.3.1 No Action Alternative

The no action alternative does not satisfy the purpose and need for the proposed action; however, pursuant to NEPA, the no action alternative has been carried forward as the baseline to which potential impacts of the action alternative can be measured. Under the no action alternative, Building 306 would continue to be used for entomological activities. The current facility would continue to be inadequate to fully meet the specifications of the Military Construction Handbook and AFI 32-1053. The lack of sufficient and purposeful space could result in decreased efficiency in the execution of the military mission.

2.3.2 Alternative 1 – Construction of an Annex to the Existing Entomology Facility, Building 306

Under this alternative an approximately 1,000 SF single-story structure with a split face CMU exterior, and standing seam metal roof would be constructed as an annex to the current entomology facility (see Figure 2-1). This alternative would not meet all the selection criteria detailed previously. More specifically, this action:

1. Would be located at a site that currently has utilities, such as electricity, water, and sewer.

2. Would not be located at a site that is within a compatible land use zone.

3. Would be located at a site that has been previously or currently is disturbed.

4. Would not be located at a site that is centralizes CE operations.

The footprint of the total facility would provide an interior capacity of approximately 2,160 SF, all of which would be constructed entirely within a 1.0-acre site on BAFB. Construction would begin late FY 03 or early FY 04 and is anticipated to last approximately seven months; however, the timeline is subject to change and the project may be constructed at an earlier or later date or in different years. On-site construction would be similar to the proposed action as described in Section 2.2.1. Likewise, operation of the entomology facility would be similar to current activities described in Section 2.2.3.

2.4 COMPARISON OF THE ALTERNATIVES

Table 2-2 provides a summary comparison of the alternatives as they related to the purpose and need criteria presented in Section 2.1. This table indicates that the proposed

Table 2-2
Summary Comparison of Proposed Action and Alternatives

Purpose and Need Criteria	Proposed Action	No Action	Alternative 1
Locate with access to utilities, such as electricity, water, and sewer	YES	YES	YES
Locate within a compatible land use zone	YES	NO	NO
Locate in an area previously or currently disturbed	YES	YES	YES
Locate in a site that centralizes all CE functions	YES	NO	NO

action and all alternatives carried forward for detailed analysis within this EA would meet the established purpose and need for the proposed action. Table 2-3 provides a summary of the environmental consequences to those resources analyzed in detail within this EA associated with implementing those alternatives carried forward for detailed analysis. As demonstrated in Table 2-3, none of the alternatives carried forward for detailed analysis should result in significant impacts to the environment based on set significance thresholds.

Table 2-3
Alternatives Comparison Matrix Summary -
Resources Analyzed in Detailed within This EA

Environmental Attributes (Threshold Criteria)	No Action	Proposed Action	Alternative 1
Surface Water Resources and Stormwater			
(number of surface water features affected)	0	0	0
(change in physical or biological water quality parameters)	No	No	No
(substantial increase in stormwater flow)	No	No	No
(substantial alteration of localized drainage patterns)	No	No	No
Air Quality			
(increase above de minimis standards)	No	No	No
Biological Resources			
(acres of vegetation communities affected)	0	1	1
(number of threatened and/or endangered species affected)	0	0	0
Social or Economic Resources (Including Environmental Justice)			
(unacceptable change in personal income or employment)	No	No	No
(number of minority and/or low-income populations affected)	0	0	0
Land Use and Transportation			
(consistent with adjacent land uses [current and planned])	No	Yes	No
(unacceptable change in level of service)	No	No	No
Public Utilities			
(*unacceptable change in the level of service*)	No	No	No
Hazardous Materials and Substances			
(existing solid/hazardous waste and debris removed)	No	Yes	Yes
(number of federal and/or state database-listed sites affected)	0	0	0
(ACM removed and remediated, if present)	No	Yes	Yes

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SECTION 3.0
AFFECTED ENVIRONMENT

This section of the EA provides a description of the existing environment of the one-acre existing site (Building 306 and adjacent areas) and the one-acre proposed site (adjacent to current CE Complex) (see Figure 2-1). In accordance with CEQ regulations (§1502.20), this EA incorporates (where applicable) the description of the existing environment as described in the H-70 Fuel Storage/Medical Pharmacy EA, dated March 2003, by reference. Environmental resources or attributes excluded from detailed analysis (including the reasoning for elimination) include: groundwater resources, wetlands, soils, noise, historic or archeological resources, the Environmental Restoration Program (ERP), and radon.

3.1 RESOURCES ELIMINATED FROM DETAILED ANALYSIS IN THIS ENVIRONMENTAL ASSESSMENT

3.1.1 Groundwater Resources

BAFB is underlain by aquifers of the Denver Basin aquifer system specifically the main underlying aquifers are the Denver aquifer and the Arapahoe aquifer (U.S. Geological Survey [USGS] 1995). The region of influence (ROI) for this resource area would be the aquifers underlying BAFB. The water bearing layers of these two aquifers are approximately 150 to 175 feet thick (USGS 1995). BAFB has six non-tributary wells; however, BAFB receives potable water from the City of Aurora. Depth to groundwater is greater than 20 feet below ground surface and therefore there would be no anticipated impacts to this resource area from implementation of the proposed action or alternatives. Since there would be no anticipated adverse impacts to this resource area, it has been eliminated from detailed analysis in this EA.

3.1.2 Wetlands

An analysis of the wetlands ROI includes only those wetlands or special aquatic sites located on the installation. A base-wide jurisdictional determination by the U.S. Army Corps of Engineers (USACE) has not been made for BAFB; however, there are no potentially jurisdictional waters of the United States within or adjacent to the existing or proposed sites. The nearest potentially jurisdictional water of the United States is the unnamed tributary to Toll Gate Creek, approximately 1,000 feet north of the proposed site. The nearest potentially jurisdictional special aquatic site (e.g., potentially jurisdictional wetland) is on Toll Gate Creek, approximately 2,000 feet southeast of the proposed site. Since there are no wetlands located within or adjacent to the existing or proposed sites, this resource area has been eliminated from detailed analysis in this EA.

3.1.3 100-Year Floodplain

The ROI for this resource area includes the sub-watersheds along the western portion of the installation near the existing and proposed sites. The unnamed tributary to Toll Gate Creek is the closest surface water feature to the proposed site, while the closest surface water feature to the existing site is Toll Gate Creek. The only floodplain maps available for Tollgate Creek are for areas directly downstream of Buckley AFB. Based on review of these maps, floodplains would extend onto the installation. Based on the Integrated Natural Resources Management Plan, it can be assumed that floodplains in this creek may be the width of the incised channel or wider on parts of the base (BAFB 2000). Both sites are completely outside the 100-year floodplains of any surface water feature on the installation; therefore, this resource area has been eliminated from further study within this EA.

3.1.4 Soils

Due to geographic variability and historic land uses, the ROI for this resource area is confined to similar soil associations/types on the installation. Given the previously disturbed nature of the existing and proposed sites, the historical soil conditions have been impacted. The original soil type at the existing and proposed sites would have been mapped as Fondis silt loam, 1 to 3 percent slopes. These are well-drained soils occurring mainly on uplands, with a surface layer approximately 7 inches thick and upper clay subsoil about 20 inches thick. These soils have moderate runoff and water intake, and the hazards of soil blowing and water erosion are slight to moderate (U.S. Department of Agriculture [USDA] 1971). Implementation of the proposed action or alternatives would not cause any further impacts to the soils resources within or immediately adjacent to the existing and proposed sites and therefore this resource area has been eliminated from further study in this EA.

3.1.5 Noise

The region of influence (ROI) for the existing noise conditions analysis is the existing and proposed sites and adjacent land uses on the installation. Existing noise conditions on BAFB are highly influenced by the operational activities of aircraft and by the test run-ups of aircraft engines. In the absence of aircraft activity, noise due to base activities is generated from surface traffic; maintenance and repair facilities; training ranges; heating, ventilation, and air conditioning (HVAC) equipment; and other man-made sources, which are entirely confined to the installation. Since noise from construction and demolition activities would be minor, temporary, and entirely restricted to the installation, when compared to airfield activities, this resource area has been eliminated from further study in this EA.

3.1.6 Historic or Archeological Resources

The area of potential effect for historic or archeological resources would be limited to the existing and proposed sites and immediately adjacent areas; however, there are no known archeological or historical resources on BAFB. A full account of installation cultural resources and cultural resources management is provided in the Draft Final Integrated Cultural Resources Management Plan (BANGB 2000).

3.1.7 Environmental Restoration Program

The ROI for this issue area would be the installation since this is a base-wide program. The installation currently has an ERP to handle contaminated soil and groundwater sites. Additionally, two environmental database radius map searches covering the entire installation were performed for the H-70 Fuel Storage Facility/Medical Pharmacy EA dated March 2003, incorporated by reference. Since none of the listed ERP sites or sites from other federal and state databases are within or near the existing or proposed sites there would be no impacts associated with implementing the proposed action or alternatives. As such, the ERP program and sites have been eliminated from detailed analysis in this EA.

3.1.8 Radon

The ROI for this issue area would be a comparison of the existing radon levels within Arapahoe County and the potential levels at the existing and proposed sites. Arapahoe County is in U.S. Environmental Protection Agency (USEPA) Zone 1 for radon, which lists the average indoor radon level as greater than 4.0 pico-Curies per liter (pCi/l). Three samples tested for radon in zip code 80011 showed that average activity at basement level for one sample was less than 4.0 pCi/l, while the other two samples were between 4.0 pCi/l and 20.0 pCi/l (EDR 2002). Since radon levels within the existing and proposed sites could create a potential impact if the facility was occupied 8 hours a day or more, design features of the facility would be incorporated to eliminate any impacts from radon, as such this resource issue has been eliminated from further study in this EA.

3.2 SURFACE WATER RESOURCES AND STORMWATER

3.2.1 Regulatory Requirements

The only regulatory requirements that are triggered by the implementation of the proposed action or alternatives include the National Pollutant Discharge Elimination System (NPDES) program. A NPDES permit under Section 402 of the CWA is required for discharges into navigable waters. The USEPA is charged with the overall responsibility for the overall NPDES Program.

3.2.2 Existing Conditions

The ROI for this resource area includes the sub-watershed along the eastern portion of the installation adjacent to the existing and proposed sites.

3.2.2.1 Surface Water

The South Platte River, located approximately 15 miles northwest of BAFB, is the primary surface water drainage in the region. Several smaller intermittent tributaries located within or adjacent to BAFB feed this drainage system. Toll Gate Creek and an old tributary of Murphy Creek are the only named tributaries that are present on the installation (Figure 3-1). These waterways are intermittent in the vicinity of, and on, BAFB. In general, drainage flows in a northwest direction. All drainage from the northern section of BAFB discharges into Murphy Creek and Sand Creek to the north and east of the base; drainage from the southern and western section of the base discharges into Toll Gate Creek (BANGB 1999).

There are no surface water features within or adjacent to the existing or proposed sites. Toll Gate Creek, the closest surface water feature to the existing site, is approximately 1,200 feet southeast. An unnamed tributary to Toll Gate Creek is the closest surface water feature to the proposed site, approximately 1,000 feet north. These waterways are fully supporting of agricultural and recreational activities and are not currently threatened or impaired (Table 3-1).

Table 3-1
Water-Quality Status and Designation of Toll Gate Creek and Tributaries

State Designated Use	Attainment Status	Description	Threatened	Percent Impaired	Date of Determination
Agriculture	Fully Supporting	These surface waters are suitable or intended to become suitable for irrigation of crops usually grown in Colorado and which are not hazardous as drinking water for livestock.	No	0	March 2, 1999
Aquatic Life Warm Water-Class 2	Fully Supporting	These are waters that are not capable of sustaining a wide variety of warm water biota, including sensitive species, due to physical habitat, water flows or levels, or uncorrectable water-quality conditions that result in substantial impairment of the abundance and diversity of species.	No	0	March 2, 1999
Recreation Secondary Contact	Fully Supporting	These surface waters are suitable or intended to become suitable for recreational uses on or about the water which are not included in the primary contact subcategory, including but not limited to fishing and other streamside or lakeside recreation.	No	0	March 2, 1999

Source: USEPA Water-quality Standards Database 2003

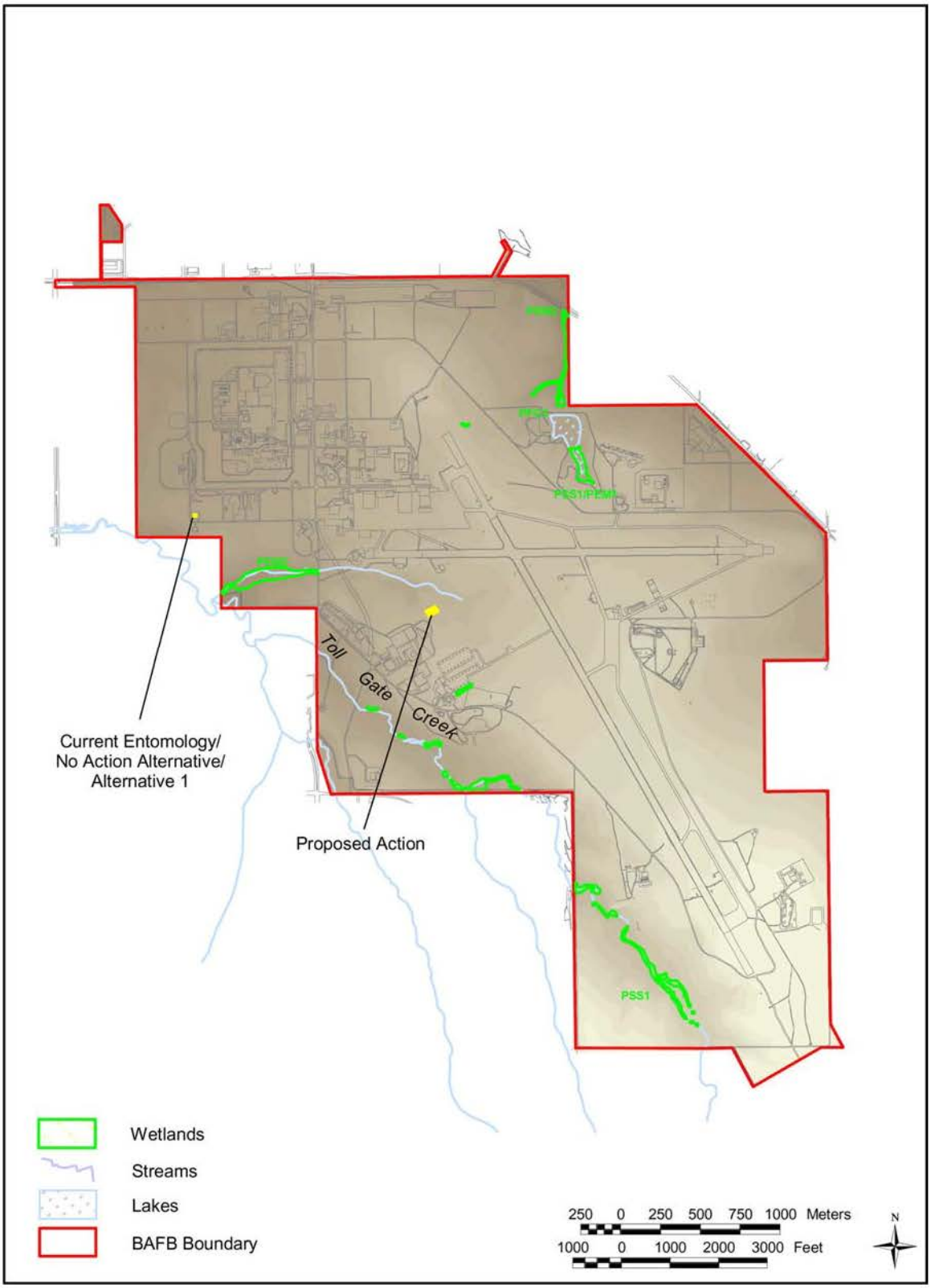

Figure 3-1. Surface Water Resources on BAFB

3.2.2.2 Stormwater and Sanitary Sewer (Point Source Discharges)

Existing point source discharges at the existing site include stormwater and domestic wastewater. BAFB has extensive natural and man-made surface drainage as well as underground storm drainage lines. The existing site is located completely within developed portions of the installation and is surrounded by engineered street drainage systems. Reasonably expected stormwater contaminants at the current entomology facility could include fuel, oil, grease, and coolant that drop onto the pavement from personal and fleet vehicles. All domestic wastewater from the existing facility is discharged into the sanitary sewer. The proposed site is located completely outside developed portions of the installation and is not currently surrounded by engineered street drainage systems. Little to no stormwater discharges are present.

BAFB currently protects its watershed through compliance with a number of federal, state, local, and USAF environmental regulations that require the installation to have detailed spill control and response procedures and to implement stormwater pollution prevention BMPs. Although the operations and corresponding materials at the current entomology facility are completely contained, there are in-place specific stormwater protection measures including a draft stormwater pollution prevention plan (SWPPP), a draft spill response and countermeasures plan, and a draft hazardous materials management plan.

3.2.2.3 Surface Runoff and Groundwater (Non-Point Source Discharges)

The existing primary non-point source discharge is surface water runoff of materials associated with landscape management activities adjacent to the current entomology facility (USEPA 2002a). Contaminants of concern include displaced soils, fertilizers, and pesticides. The existing site is surrounded by BAFB's engineered stormwater collection system; therefore, the amount of materials potentially entering the waterways through surface water runoff is minimal. Any water from the current area not introduced to the stormwater system would discharge in the form of surface water runoff and groundwater into Toll Gate Creek. BAFB has in-place integrated pest management and fertilizer reduction efforts to actively minimize these types of non-point source discharges.

All runoff from the proposed site is discharged in the form of non-point source discharges. This area is not currently incorporated in BAFB landscaping activities; therefore, there are no anticipated contaminants of concern currently being discharged at this location.

3.3 AIR QUALITY

3.3.1 Regulatory Requirements

The Clean Air Act (CAA) (42 USC 7401-7671q), as amended, provides the framework for federal, state, tribal, and local rules and regulations to protect air quality. The CAA

gives the USEPA the responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR §50) that set safe concentration levels for six criteria pollutants: particulate matter measuring less than 10 microns (μm) in diameter (PM_{10}), sulfur dioxide (SO_2), carbon monoxide (CO), nitrous oxides (NO_X), ozone (O_3), and lead (Pb). Primary NAAQS are established to protect public health, and secondary standards provide protection for the public welfare, which includes wildlife, climate, transportation, and economic values (Table 3-2). Additionally, the USEPA also has responsibility for ensuring that air quality standards are met to control pollutant emissions from mobile (i.e., vehicles) and stationary (i.e., factories) sources.

Table 3-2
National Ambient Air Quality Standards

Air Pollutant	Averaging Time	NAAQS	
		Primary[1]	Secondary[2]
CO	1-hour 8-hour	35 ppm 9 ppm	35 ppm 9 ppm
NO_X	Annual	0.053 ppm	0.053 ppm
SO_2	3-hour 24-hour Annual	- 0.14 ppm 0.03 ppm	0.50 ppm - -
PM_{10}	24-hour Annual	150 μg/m^3 50 μg/m^3	150 μg/m^3 50 μg/m^3
O_3	1-hour[3] 8-hour	0.12 ppm 0.08 ppm	0.12 ppm 0.08 ppm
Pb	Quarterly average	1.5 μg/m^3	1.5 μg/m^3

[1] Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly.
[2] Secondary standards set limits to protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation, and buildings.
[3] The ozone 1-hour standard applies only to designated nonattainment areas.
ppm = parts per million
μg/m^3 = micrograms per cubic meter
Source: USEPA 2002b

Areas that violate NAAQS are designated as nonattainment areas, and areas that comply with air quality standards are designated attainment areas for the relevant pollutants. Attainment/maintenance areas are areas that have previously been designated nonattainment, and have subsequently been redesignated to attainment for a probationary period, due to complying with the NAAQS. Attainment/maintenance status is achieved through the development and implementation of maintenance plans for criteria pollutants of interest.

The CAA contains the legislation that mandates the general conformity rule to ensure that federal actions in nonattainment and attainment/maintenance areas do not interfere with a state's timely attainment of the NAAQS. The CAA also requires federal agencies to

demonstrate that their actions conducted in nonattainment and attainment/maintenance areas conform to the purposes of the State Implementation Plan (SIP).

The general conformity rule divides the air conformity process into two distinct areas: applicability analysis and conformity determination. The applicability analysis process requires federal agencies to determine if their proposed action(s) would increase emissions of criteria pollutants above the threshold levels (40 CFR §93.153). These threshold rates vary depending on the severity of the nonattainment and geographic location (Tables 3-3 and 3-4). *De minimis* emissions are total direct and indirect emissions of a criterion pollutant caused by a federal action in a nonattainment or attainment/maintenance area in less than these threshold rates**.**

Table 3-3
Applicability Thresholds for Criteria Pollutants in Nonattainment Areas

Criteria Pollutants/NAA Status	TPY
O_3 (VOCs or NO_X)	
Serious NAAs	50
Severe NAAs	25
Extreme NAAs	10
Other O_3 NAAs outside an O_3 transport region	100
Marginal and moderate NAAs inside an O_3 transport region	50
VOC	100
CO	
All NAAs	100
SO_2 or NO_X	
All NAAs	100
PM_{10}	
Moderate NAAs	100
Serious NAAs	70
Pb	
All NAAs	25

NAA = nonattainment areas
TPY = tons per year
VOC = volatile organic compound

Table 3-4
Applicability Thresholds for Attainment/Maintenance Areas

Criteria Pollutants	TPY
O_3 (NO_X, SO_2 or NO_2)	
All maintenance areas	100
O_3 (VOCs)	
Maintenance areas inside an O_3 transport region	50
Maintenance areas outside an O_3 transport region	100
CO	
All maintenance areas	100
PM_{10}	
All maintenance areas	100
Pb	
All maintenance areas	25

TPY = tons per year
VOC = volatile organic compounds
Source: 40 CFR §93.153

An action is subject to the general conformity rule if the emissions are deemed regionally significant, even if the emissions are *de minimis*. Regionally significant emissions are defined as the total direct and indirect emissions of a federal action for any criteria pollutant that represents 10 percent or more of a nonattainment or maintenance area's emission inventory for that pollutant.

3.3.2 Existing Conditions

Due to the mobility of air pollutants, the ROI for this issue area includes Arapahoe County and the Metropolitan Denver Air Quality Control Region (AQCR). BAFB is located in Arapahoe County, Colorado, within the Metropolitan Denver AQCR 36. The Denver metropolitan area was initially designated by the USEPA as serious nonattainment for CO, nonattainment for the 1-hour O_3 standard, and moderate nonattainment for PM_{10}; however, the region has received redesignation of attainment/maintenance status effective 14 January 2002 for CO, 11 October 2001 for O_3, and 16 October 2002 for PM_{10} (APCD 2002).

BAFB has been identified as a major source of criteria pollutants because it has the potential to emit or has actual emissions of more than 100 tons of any single criteria pollutant. BAFB is currently identified by the APCD as a major Title V source of the PM_{10} precursors, NO_X and SO_2, and is subject to Title V Operating Permit No. 950PAR118. This permit was issued on 28 August 1997, most recently reissued as of 01 July 2002, and expires 30 June 2007 (BAFB 2001). In July 2002, the CDPHE performed an inspection of stationary source emission units and determined BAFB was in compliance with the Title V permit.

3.4 BIOLOGICAL RESOURCES

3.4.1 Regulatory Requirements

The Endangered Species Act (ESA) of 1973 (PL 93-205), as amended, was enacted to provide a program of preservation for endangered and/or threatened species and to provide protection for ecosystems upon which these species depend for their survival. The U.S. Fish and Wildlife Service (USFWS) is responsible for implementing the ESA within the United States and its territories. The USFWS and the Colorado Division of Wildlife (CDOW) maintain protected species lists (endangered, threatened, proposed candidate, or species of concern) for species that occur or could potentially occur within Arapahoe County.

3.4.2 Existing Conditions

The ROI for this resource area is the existing and proposed sites, as compared to the rest of the installation.

3.4.2.1 Vegetation Communities

The potential climax vegetation community at BAFB would be shortgrass prairie (BAFB 2002c). The historical vegetation at BAFB probably included western wheatgrass (*Agropyron smithii*) with pockets of buffalo grass (*Buchloe dactyloides*), blue grama (*Bouteloua gracilis*), and other grama species (*Bouteloua* spp.). This vegetation is evident in areas that have not been historically seeded with crested wheatgrass (*Agropyron cristatum*) or where the vegetation has reverted to a more native stand.

Vegetation surveys were conducted at BAFB during 2001, and the vegetation was divided into mixed grass-blue grama/western wheatgrass prairie, crested wheatgrass prairie, bottomland meadows, cottonwood/willows, weedy disturbed areas, and landscaped areas. In general, the mixed grass-blue grama/western wheatgrass prairies are the most diverse plant habitats and occur primarily on upland areas; the crested wheatgrass prairies are more uniform and have few other species associated with them (BAFB 2002c). The seeded crested wheatgrass prairies vegetation type is the largest mapped vegetation type on BAFB, and is the type mapped for both the existing and proposed sites; however, the both sites has been previously disturbed and the density of vegetation is low. The proposed site was previously disturbed during COARNG heavy equipment training. These areas are populated by a mix of fringed sagewort (*Artemesia frigida*), cheatgrass (*Bromus tectorum*), field bindweed (*Convolvulus arvensis*), Canada thistle (*Cirsium arvense*), and Russian thistle (*Salsola kali*). In addition, some disturbed areas are populated by Dalmatian toadflax (*Linaria genistifolia* ssp. *dalmatica*) and leafy spurge (*Euphorbia esula*).

3.4.2.2 Threatened and/or Endangered Species

A list of protected and sensitive species that potentially occur in Arapahoe County is presented in Table 3-5. Federal and state-listed species, including candidate and species of concern, which have been observed at BAFB include bald eagle (*Haliaeetus leucocephalus*), western burrowing owl (*Athene cunicularia*), and black-tailed prairie dog (*Cynomys ludovicianus*). Although these species have been observed within the borders of BAFB, there have been no observations of these species or their habitat near the proposed site. It is doubtful that the remainder of the species listed in Table 3-5 would occur on BAFB other than as migrants or transient visitors (BAFB 2002c; Fayette et al. 2000).

Table 3-5
Federal and State-Listed Species Potentially Occurring in Arapahoe County, Colorado

Common Name (Scientific Name)	Habitat Preferences/ Reason For Decline	Federal Status	State Status	Potentially Suitable Habitat Present?
Birds				
Bald eagle* (*Haliaeetus leucocephalus*)	Sea coasts, rivers, and large lakes; nests in tall trees or cliffs near water/habitat destruction, illegal shooting, pesticides	T	T	Yes
Interior least tern** (*Sterna antillarum*)	Sandy/pebbly beaches, inland river sandbars for nesting and shallow water for foraging/riverine alterations, habitat loss, nest disturbance	NL	E	No
Mountain plover** (*Charadrius montanus*)	Prairie grasslands, arid plains, and fields; nesting plovers choose shortgrass prairies grazed by prairie dogs, bison, and cattle, and overgrazed tall grass and fallow fields/habitat loss, overgrazing, predation	PT	SC	Yes
Mexican spotted owl** (*Strix occidentalis lucida*)	Lower elevation forests mostly in deeply incised, rocky canyons; complex forest structures that contain uneven-aged, multi-level, and old-aged thick forests/logging, catastrophic wildfire	T	T	No
Piping plover** (*Charadrius melodus*)	Sandy lakeshore beaches, sandbars within riverbeds, and sandy wetland pastures, all of which must be sparsely vegetated/habitat alteration and destruction, recreational activities near nesting sites	NL	T	No
Western burrowing owl* (*Athene cunicularia*)	Primarily found in grasslands and mountain parks, usually in or near prairie dog towns; also uses well-drained steppes, deserts, prairies, and agricultural lands/urbanization, decimation of prairie dog populations	NL	T	Yes
Mammals				
Black-footed ferret** (*Mustela nigripes*)	Closely associated with prairie dog habitat; utilizes prairie dog burrows for nesting/habitat loss, poisoning, canine distemper, plague	E	T	No[1]
Black-tailed prairie dog* (*Cynomys ludovicianus*)	Short-grass prairie, they avoid heavy brush and tall grass areas/habitat loss, sport hunting, extermination by ranchers/farmers	C	SC	Yes
Preble's meadow jumping mouse** (*Zapus hudsonius preblei*)	In and near densely vegetated, shrub-dominated riparian areas/habitat loss	T	SC	No[2]
Swift fox (*Vulpes velox*)	Open prairie and arid plains, including areas intermixed with winter wheat fields, occupies burrow when inactive, may dig burrow or use burrow made by other mammal, /habitat loss	NL	SC	No
Plants				
Colorado butterfly plant** (*Gaura neomexicana coloradensis*)	Sub-irrigated, alluvial soils of drainage bottoms surrounded by mixed grass prairie; elevation 5,800-6,200 feet/vegetative succession, haying, grazing, herbicide spraying, urban expansion	T	R/S1	No
Ute ladies'-tresses** (*Spiranthes diluvialis*)	Open wetland and riparian areas with permanent sub-irrigation; early successional riparian habitats such as point bars, sand bars, and low-lying gravelly, sandy, or cobbly edges/alteration of hydrology, invasive plants, habitat loss, low reproductive rate, loss of pollinators	T	R/S2	No

[1] BAFB falls within a block-cleared zone for the black-footed ferret (USFWS 1997)
[2] USFWS concluded that there are no Preble's Meadow jumping mice on BAFB (USFWS 2002b)

* = Known to occur at BAFB
** = Not likely to occur at BAFB
C = Federally or state-listed candidate species
E = Federally or state-listed endangered species
PT = Proposed threatened
R = State-listed as rare
S1 = Critically endangered in state
S2 = Endangered or threatened in state
SC = State-listed special concern species (not a statutory category)
T = Federally or state-listed threatened species
NL = Not listed (species may be federally protected, but is not listed by the USFWS as potentially occurring in Arapahoe County)
Sources: CDOW 2002a, 2002b, 2002c; USFWS 2002a

3.5 SOCIAL OR ECONOMIC RESOURCES (INCLUDING ENVIRONMENTAL JUSTICE)

3.5.1 Regulatory Requirements

Socioeconomic analyses generally include detailed investigations of the prevailing population, income, employment, and housing conditions of a community or area of interest. The socioeconomic conditions of a ROI could be affected by changes in the rate of population growth, changes in the demographic characteristics of a ROI, or changes in employment within the ROI caused by the implementation of the proposed action or alternatives. In addition to these characteristics, populations of special concern, as addressed by Executive Order (EO) 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 1994) are identified and analyzed for environmental justice impacts.

3.5.2 Existing Conditions

The socioeconomic conditions are similar to those described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated March 2003, incorporated by reference. The ROI for this issue area is defined as U.S. Census Bureau (USCB) 2000 Census Tract 71.02, Block Group 9, Arapahoe County, Colorado (USCB 2002). For comparison purposes, in the 1990 Census, BAFB was located in USCB Census Tract 71, Block Group 1 (USCB 1993).

3.6 LAND USE AND TRANSPORTATION

3.6.1 Regulatory Requirements

Important components of the human built environment include transportation networks, current and future planned land uses, and public services and infrastructure including schools, health care facilities, fire, police, and utilities. Transportation resources include all road networks and public transportation services (e.g., buses) within the immediate project area. Implementing the proposed action or alternatives could slow or reroute traffic through arterial and major thoroughfares. As transportation networks expand, land use patterns develop. As with other resources, land is not available in unlimited quantities. Because of this, land use must be properly planned and controlled. The CEQ regulations recognize this need for the rational management of land resources and have provided for a specific consideration of the relationship of a changed pattern in land uses, which requires knowledge and understanding of existing and projected land capabilities and land use patterns.

3.6.2 Existing Conditions

The ROI for land use includes the current and planned land uses as described in the BAFB General Plan for the existing and proposed sites, as well as the adjacent areas. The ROI for transportation is the installation transportation networks.

3.6.2.1 Land Use

Current and planned land uses are similar to those described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated March 2003, incorporated by reference. Planned land uses near the existing site include residential, residential-related, and commercial/retail. Planned land uses near the proposed site include industrial and office/administrative.

3.6.2.2 Transportation

Transportation is similar to that described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated March 2003, by reference. Access to BAFB is available via gates at the intersections of Aspen Avenue and Sixth Avenue (North Gate) and Aspen Avenue and Mississippi Avenue (South Gate). Of the traffic entering and departing the installation, 67 percent uses the North Gate (BAFB 2002b). Aspen Avenue is a 4-lane, divided street running north to south from the North Gate to A-Basin Street, from this intersection southward, Aspen Avenue becomes a 2-lane divided roadway to the Mississippi Gate. All vehicles entering and departing the installation must use Aspen Avenue. Breckenridge and Steamboat avenues distribute traffic from Aspen Avenue to the major industrial and flightline areas (BAFB 2002b). The existing site is located at the intersection of Telluride Street and A-Basin Avenue. Traffic traveling to or from the site must travel along the 2-lane A-Basin Avenue to reach Aspen Avenue, the major thoroughfare for the installation. Access to the proposed site would be from Aspen Avenue through the surface parking area of Building 1005 or new interior roadways connecting the proposed site directly to Aspen Avenue.

3.7 PUBLIC UTILITIES

Public utilities are similar to those described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated March 2003, incorporated by reference. The ROI for this issue area includes the installation utility infrastructure and the adjoining public utility systems.

BAFB wastewater is discharged into the Toll Gate Creek trunk sewer, which is a part of the City of Aurora wastewater collection system (USAF 1998). There are two wastewater outflows on BAFB, one servicing the northern portion of the installation and one servicing the southern portion of the installation. The proposed site would be within the southern service area. The wastewater is treated at the Metro Wastewater Reclamation District wastewater treatment plant, which discharges treated effluent to the South Platte River (USAF 1998). Monitored wastewater discharge points revealed that

wastewater discharge levels for BAFB range from 3.56 million gallons for months during the winter, spring, and fall to 9.8 million gallons for the summer months, such as July.

BAFB disposed of approximately 1,477 tons of non-hazardous municipal solid waste (MSW) in regulated landfills during FY 02. This disposal included 789.5 tons of non-hazardous debris from a clearing of accumulated clay pigeons at the skeet range, which is not a routine activity. BAFB diverted approximately 514 tons of MSW and construction debris from regulated landfills through recycling and reuse programs during FY 02.

3.8 HAZARDOUS MATERIALS AND SUBSTANCES

3.8.1 Hazardous Materials and Hazardous Wastes

3.8.1.1 Regulatory Requirements

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act (SARA) of 1986 authorize the USEPA to respond to spills and other releases of hazardous substances to the environment. It also authorizes the National Oil and Hazardous Substances Pollution Contingency Plan. Title III of SARA authorizes the Emergency Planning and Community Right-to-Know Act (EPCRA), which requires facility operators with hazardous substances to prepare comprehensive emergency plans and to report accidental releases. EO 12856 (Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, August 1993) requires federal agencies to comply with the provisions of EPCRA.

3.8.1.2 Existing Conditions

The ROI for this issue area would be the existing and proposed sites and immediately adjacent areas. During FY 02, BAFB used approximately 926 pounds of regulated pesticides and 33 tons of regulated Class I ozone-depleting substances (ODS). A list of currently used and stored pesticides is included in Table 2-1. Due to the reuse program at the current entomology facility, no hazardous wastes are generated by entomological activities.

3.8.2 Asbestos

3.8.2.1 Regulatory Requirements

ACM and ACM abatement is regulated by the USEPA and the Occupational Safety and Health Administration (OSHA). The state of Colorado also has regulations pertaining to ACM abatement. Emissions of asbestos fibers into the ambient air are regulated in accordance with Section 112 of the CAA, which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The NESHAP addresses the demolition or renovation of buildings containing ACM. The CDPHE, APCD,

administers the state's asbestos abatement regulation (Colorado Regulation No. 8, Part B). These regulations cover demolition activities and are more stringent than the NESHAP program. The current USAF practice is to manage or abate ACM in active facilities, and abate ACM per regulatory requirements prior to facility demolition. Abatement of ACM occurs when there is a potential for asbestos fiber releases that would affect the environment or human health.

3.8.2.2 Existing Conditions

The ROI for this issue area would be similar to the ROI for Hazardous Materials and Hazardous Wastes discussed previously. There is a potential for asbestos within areas with known world War II-era development, which includes the existing entomology facility (Figure 3-2). The asbestos could be present as (1) insulation on abandoned buried steamlines, (2) abandoned buried transit water lines, and (3) debris in surface and/or near surface soils remnant from building demolition.

The proposed site has not been disturbed by past construction or demolition activities associated with World War II-era facilities. However, there could be a low probability that ACMs could be encountered during ground-disturbing activities.

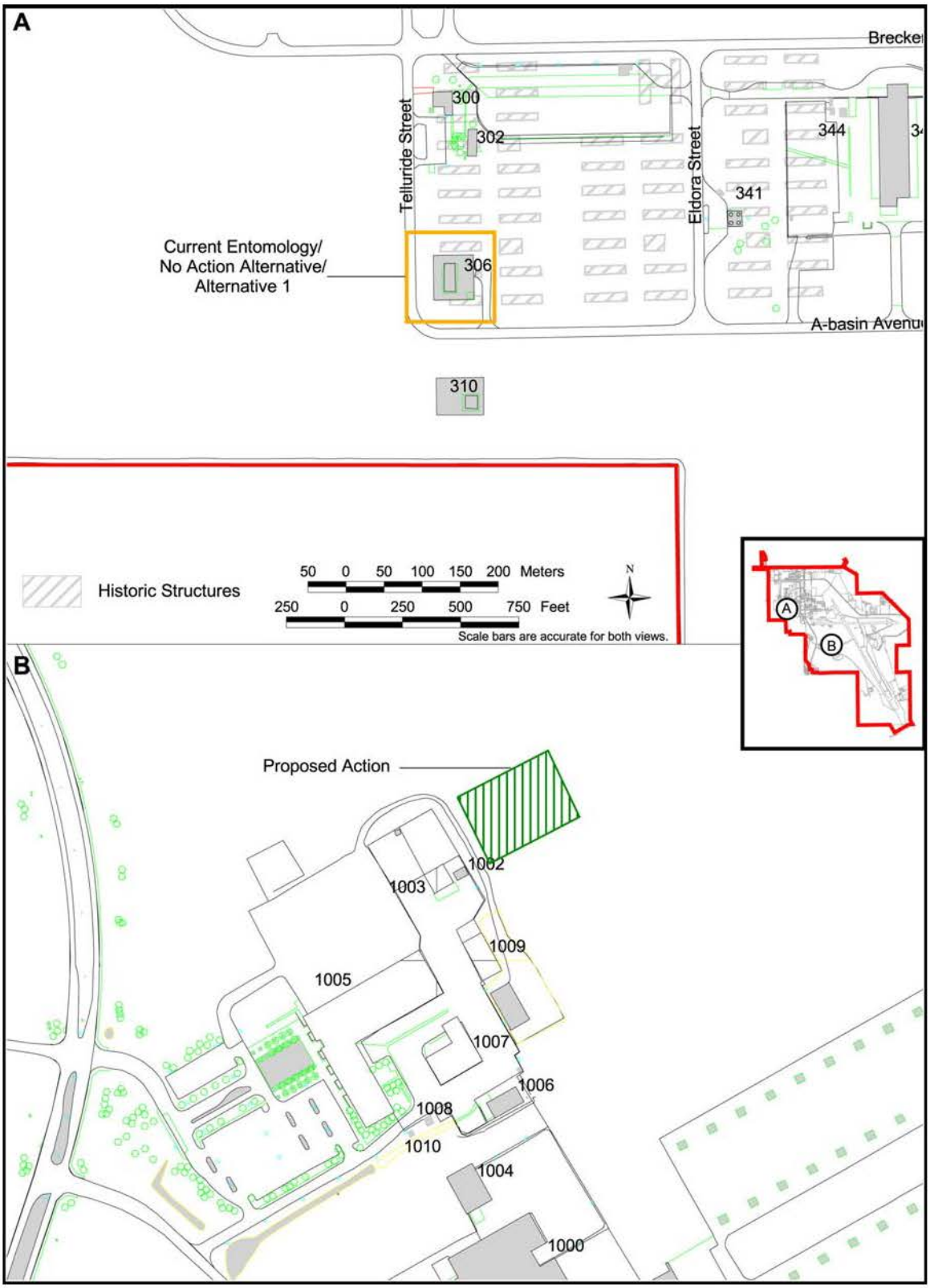

Figure 3-2. Footprint of World War II Buildings at the Existing and Proposed Sites

SECTION 4.0
ENVIRONMENTAL CONSEQUENCES

This section of the EA forms the basis for the comparison of the alternatives identified in Section 2.3. As previously mentioned, the proposed site is a one-acre site adjacent to CE Complex, while the existing site includes the one-acre site containing the existing entomology facility. The discussion presented includes the potential environmental impacts from implementing the proposed action or alternatives. Table 4-1 provides a summary of the environmental consequences associated with implementing the proposed action or alternatives carried forward for detailed analysis. As demonstrated in Table 4-1, neither the proposed action nor the alternatives would result in significant impacts to the natural and human environments.

Environmental effects within this EA are analyzed at short-term, long-term, and cumulative levels. According to the CEQ (1997b) in *Considering Cumulative Effects Under the National Environmental Policy Act*, "…Only by reevaluating and modifying alternatives in light of the project cumulative effects can adverse consequences be effectively avoided or minimized." Cumulative effects should be considered in the scoping process of proposed actions to avoid long-term damage to the natural and man-made environments.

Implementing the proposed action or any of the alternatives considered in this EA could potentially result in cumulative impacts. Cumulative impacts can become an important issue when the chosen activity (i.e., construction of a new entomology facility and demolition of the existing entomology facility) interacts either directly or indirectly with other unrelated actions (past, present, or reasonably foreseeable). As mentioned previously, BAFB currently has 2.2 million SF of occupiable floor space (BAFB 2002b), which, with the addition of surface parking areas, accounts for approximately 4.2 million SF of developed surface at BAFB. Planned construction/development activities would increase developed surfaces, including parking, at BAFB by approximately 54,250 SF in FY 02, 638,258 SF in FY 03, 59,040 SF in FY 04, and 131,445 SF in FY 05. This would increase the amount of developed area by approximately 883,000 SF in new construction, depending on construction scheduling. Total developed areas on BAFB would equal approximately 5.1 million SF by the end of FY 05, if all projects were completed within this period (BAFB 2002b). If all projects were constructed according to current schedules, there would be a total increase of approximately 21 percent in developed surfaces on BAFB over the next four years. A full analysis of the cumulative impacts of all construction activities is currently being undertaken by BAFB as part of implementing the Capital Improvements EA, which analyzes all projects described within the General Plan, and therefore only cumulative impacts due to the proposed construction and operation activities of the entomology facility are identified here. The construction of the new facility would account for 4,055 SF or approximately less than 1.0 percent of total planned construction activities. This construction activity would increase the amount of

Table 4-1
Alternatives Comparison Matrix Summary – All Resources Identified

Environmental Attributes (Threshold Criteria)	No Action	Proposed Action	Alternative 1
Groundwater Resources			
(*shallow groundwater resources*)	No	No	No
(*depth to groundwater exceeds proposed excavation depth*	Yes	Yes	Yes
Wetlands			
(*wetlands present)*	No	No	No
100-Year Floodplain			
(*within the 100-year floodplain*)	No	No	No
Soils			
(*cut-and-fill activities not balanced*)	No	No	No
Noise			
(*activities within acceptable noise contours*)	Yes	Yes	Yes
Historic or Archeological Resources			
(*number of eligible or potentially eligible sites affected*)	0	0	0
Environmental Restoration Program			
(*ERP sites present*)	No	No	No
Radon			
(*building design to reduce/prevent radon exposure*)	Yes	Yes	Yes
Surface Water Resources and Stormwater			
(number of surface water features affected)	0	0	0
(change in physical or biological water quality parameters)	No	No	No
(substantial increase in stormwater flow)	No	No	No
(substantial alteration of localized drainage patterns)	No	No	No
Air Quality			
(increase above de minimis standards)	No	No	No
Biological Resources			
(acres of vegetation communities affected)	0	1	1
(number of threatened and/or endangered species affected)	0	0	0
Social or Economic Resources (Including Environmental Justice)			
(unacceptable change in personal income or employment)	No	No	No
(number of minority and/or low-income populations affected)	0	0	0
Land Use and Transportation			
(consistent with adjacent land uses [current and planned])	No	Yes	No
(unacceptable change in level of service)	No	No	No
Public Utilities			
(*unacceptable change in the level of service*)	No	No	No
Hazardous Materials and Substances			
(existing solid/hazardous waste and debris removed)	No	Yes	Yes
(number of federal and/or state database-listed sites affected)	0	0	0
(ACM removed and remediated, if present)	No	Yes	Yes

impervious and built surfaces within the installation; however, construction and operational BMPs would reduce or avoid any immediate adverse impacts to the natural and man-made environments at BAFB.

Certain resource areas and issues were eliminated from detailed analysis in this EA due to the absence of the resources within or adjacent to the existing or proposed sites or due to

previous effects. Since these areas would not be impacted either in the short or long-term through implementing the proposed action or alternative or selecting the no action alternative, it is unlikely that any cumulative impacts would occur. Those resource areas or issues that were eliminated included: groundwater resources, wetlands, soils, noise, historic or archeological resources, the ERP, and radon. Other resource areas including, surface water resources and stormwater, air quality, biological resources, social or economic resources, land use and transportation, public utilities, and hazardous materials and substances, were analyzed in detail and are discussed in the following sections.

4.1 SURFACE WATER RESOURCES AND STORMWATER

Implementing the proposed action or alternatives could result in the disturbance of or physical changes in localized surface water features and/or floodplains from changes in surface water flows, and point and non-point source discharges. Point source and non-point source discharges are quantified in terms of land use area and in stormwater and non-stormwater flow before, during, and after construction activities. Potential effects to surface water resources will be quantified in this EA by acreage and/or linear distance of surface waters affected and/or by an unacceptable rise in the level of physical and biological parameters as defined by the CDPHE. Additional significance thresholds include the creation of excess stormwater runoff that would exceed the capacity of existing or planned stormwater drainage systems, excess stormwater that would result in flooding either on site or off site, and substantial alteration of localized drainage patterns. The ROI for this resource area includes the sub-watershed along the eastern portion of the installation adjacent to the existing and proposed sites.

4.1.1 No Action

Selecting the no action alternative would result in no significant long-term impacts to surface water resources or from stormwater runoff/management. Current activities would be maintained at Building 306.

4.1.2 Proposed Action

Implementing the proposed action would not result in significant impacts to surface water resources or from stormwater runoff/management. Small changes in stormwater, surface water, and groundwater movement would be expected. As discussed earlier, stormwater BMPs would be implemented to reduce the potential for short-term soil erosion and contaminated stormwater flows. Any hazardous wastes would be disposed of per federal, state, and local laws and regulations. Additionally, design of the facility would include appropriate spill prevention and containment features to reduce the long-term potential for material loss from the site during facility operations.

4.1.2.1 Surface Water

Currently an estimated 20,000 gallons of normal annual precipitation is added to Toll Gate Creek as stormwater flows. Completion of the demolition activities of Building 306 would covert the stormwater flows into other types of water transport (i.e., surface water runoff, shallow, and deep infiltration) near the existing site under normal precipitation conditions. This increased alternative water flow would be the result of increased open ground, once demolition activities were completed. Likewise, with the increase in impervious cover from the construction of the new entomology facility, parking area, and roadways, an estimated 40,000-gallon increase in stormwater flows would be anticipated into the unnamed tributary to Toll Gate Creek under normal precipitation conditions. An estimated net increase of approximately 20,000 gallons of stormwater flow discharging into Toll Gate Creek would be expected from implementing the entire proposed action (Table 4-2).

Table 4-2
Estimated Water Transport Due to Proposed Action

	Estimated Water Transport (Millions of Gallons)				
	Stormwater	**Evapotranspiration**	**Surface Runoff**	**Shallow Infiltration**	**Deep Infiltration**
Existing Site	0.02	0.163	0.041	0.102	0.102
Proposed Site	0.04	0.157	0.039	0.098	0.098
Net Change in Stormwater Flow	0.02	0.006	0.002	0.004	0.004

Although small changes[1] in annual flow would be realized, implementing the proposed action would not alter physical characteristics, including, course, channel width, slope, soil characteristics, sediment profile, or flow direction of any of the surface water features near either site (USEPA 1992, 2002a). Surface waters would remain as described in Section 3.1.

4.1.2.2 Stormwater and Sanitary Sewer (Point Source Discharges)

During construction and demolition activities, no change in stormwater flow would be anticipated. As mentioned previously, extra care would be taken to perform scheduled servicing of the catch basins, and any other stormwater collection points. This would ensure containment of construction debris, displaced silt, and fuel, oil, grease, and coolants from construction equipment. In addition, stormwater BMPs would be implemented to reduce the potential for soil erosion and contaminated stormwater and surface water flows due to construction activities.

After the construction and demolition phases, there would be a slight increase in stormwater collected, managed, and discharged due to the increased size of the new facility including parking area adding more impervious cover to BAFB. As mentioned

[1] 1 acre inch (1 inch of water over 1 acre) = 27,154.28 gallons

previously, an annual increase of approximately 20,000 gallons of stormwater runoff would be expected after completion of construction and demolition activities (see Table 4-2). As part of the proposed action, the stormwater system would be upgraded, as necessary, to support the expected increases in stormwater flows. This additional stormwater runoff, without changes in operations, would constitute a proportional decrease (dilution) in contaminants concentrations in discharged stormwater at the associated outfalls. As mentioned previously, active BMPs, collection, and management of these additional stormwater flows should minimize any chance for increased transport of contaminants into local waterways.

Estimated peak stormwater flow rates for a 10-, 25-, 50-, and 100-year storm event with duration of 2 and 24 hours are listed in Table 4-3. Although there would be no anticipated change due to stormwater flows, the potential for localized on base flooding during a significant precipitation event could occur. During such an event, spikes in transport of traditional surface pollutants such as particulates, oil, grease, and coolants could be observed; however, with active stormwater BMPs, transport of such materials would be minimized. As mentioned previously, if necessary, appropriate upgrades to existing stormwater management systems would be made to handle increased flows from implementing the proposed action.

Table 4-3
Peak Stormwater Flows for the Proposed Action
During 10-, 25-, 50-, and 100-Year Storm Events

Storm Frequency (years)	Duration (hrs)	Peak Intensity (in/hr)	Flow Rates PA/A (ft^3/s)
10	2	0.90	0.07
10	24	0.08	0.01
25	2	1.06	0.09
25	24	0.11	0.01
50	2	1.13	0.10
50	24	0.11	0.01
100	2	1.44	0.13
100	24	0.14	0.01

hrs = hours
in/hr = inches per hour
PA/A = Proposed Action or Alternative
ft^3/s = cubic per second

Because the operational entomology activities would remain the same, wastewater types, quantities, and associated wastes would be similar to those currently occurring. All domestic wastewater from the new facility would be similarly discharged into the sanitary sewer.

4.1.2.3 Surface Runoff and Groundwater (Non-Point Source Discharges)

During the construction and demolition phases of the proposed action an increase in open ground and subsequent siltation, due to transport of disturbed soils could be expected (Table 4-4). The potential for small quantities of construction equipment fluids to be

transported in surface runoff or infiltrate the subsurface environment could also be expected. Any hazardous wastes generated would be disposed of according to federal, state, and local guidelines.

After construction and demolition, the effective area of landscaped and maintained surfaces would double, thereby proportionately increasing the potential non-point source discharge via surface water runoff and subsurface transport of materials associated with landscape management activities. The operations of the entomology facility would remain the same, but the size of the building and parking areas would increase. The subsequent collection and management of additional stormwater would lower surface water and groundwater transport and discharge of many potential water contaminants, including silts, fuel, oil, grease, and coolant (see Table 4-4).

Table 4-4
Estimated Undeveloped, Open Ground, and Developed Non-point Source Discharges During Different Stages of Proposed Action

	Non-Point Source Discharge (Millions of Gallons/Year)		
	Undeveloped	**Open-Ground**	**Developed and Maintained**
Current Activities	0.43	0.00	0.41
Construction Activities	0.00	0.43	0.41
Demolition Activities	0.00	0.43	0.39
Operational Activities	0.00	0.00	0.82

4.1.3 Alternative 1

Implementing this alternative would result in no significant impacts to surface water resources. Potential environmental consequences would be similar but to a lesser magnitude than the proposed action.

4.1.3.1 Surface Water

Completion of the construction activities associated with Alternative 1 would increase stormwater flow discharging into Toll Gate Creek by 20,000 gallons (Table 4-5).

Table 4-5
Estimated Water Transport Due to Alternative 1

	Estimated Water Transport (Millions of Gallons)				
	Stormwater	**Evapotranspiration**	**Surface Runoff**	**Shallow Infiltration**	**Deep Infiltration**
Existing Conditions	0.02	0.163	0.041	0.102	0.102
Alternative 1	0.04	0.157	0.039	0.098	0.098
Net Change in Stormwater Flow	0.02	0.006	0.002	0.004	0.004

Although small changes in annual flow would be realized, implementing this alternative would not alter physical characteristics, including, course, channel width, slope, soil characteristics, sediment profile, or flow direction of any of the surface water features near either site (USEPA 1992, 2002a). Surface waters would remain as described in Section 3.1.

4.1.3.2 Stormwater and Sanitary Sewer (Point Source Discharges)

During construction activities, no change in stormwater flow would be anticipated. As mentioned previously, extra care would be taken to perform scheduled servicing of the catch basins, and any other stormwater collection points. This would ensure containment of construction debris, displaced silt, and fuel, oil, grease, and coolants from construction equipment. In addition, stormwater BMPs would be implemented to reduce the potential for soil erosion and contaminated stormwater and surface water flows due to construction activities.

After the completion of construction activities, there would be a slight increase in stormwater collected, managed, and discharged due to the increased size of the entomology facility including parking area adding more impervious cover to BAFB. As mentioned previously, an annual increase of approximately 20,000 gallons of stormwater runoff would be expected after completion of construction and demolition activities (see Table 4-5). As part of this alternative, the stormwater system would be upgraded, as necessary, to support the expected increases in stormwater flows. This additional stormwater runoff, without changes in operations, would constitute a proportional decrease (dilution) in contaminants concentrations in discharged stormwater at the associated outfalls. As mentioned previously, active BMPs, collection, and management of these additional stormwater flows should minimize any chance for increased transport of contaminants into local waterways.

Estimated peak stormwater flow rates are the same as for the proposed action (Table 4-3). As with the proposed action, there would be no anticipated change to the documented 100-year floodplain. However, the potential for localized on-base flooding during a significant precipitation event could occur. As mentioned previously, if necessary, appropriate upgrades to existing stormwater management systems would be made to handle increased flows from implementing this alternative.

Because the operational entomology activities would remain the same, domestic wastewater types, quantities, and associated wastes would be similar to those currently occurring. All wastewater from the new facility would be similarly discharged into the sanitary sewer.

4.1.3.3 Surface Runoff and Groundwater (Non-Point Source Discharges)

During the construction activities associated with this alternative an increase in open ground and subsequent siltation, due to transport of disturbed soils could be expected (Table 4-6). The potential for small quantities of construction equipment fluids to be

transported in surface runoff or infiltrate the subsurface environment could also be expected. Any hazardous wastes would be disposed of according to federal, state, and local guidelines.

Table 4-6
Estimated Undeveloped, Open Ground, and Developed Non-point Source Discharges During Different Stages of Alternative 1

	Non-Point Source Discharge (Millions of Gallons/Year)		
	Undeveloped	Open-Ground	Developed and Maintained
Current Activities	0.00	0.00	0.41
Construction Activities	0.00	0.02	0.39
Operational Activities	0.00	0.00	0.39

After construction, the effective area of landscaped and maintained surfaces would double, thereby proportionately increasing the potential non-point source discharge via surface water runoff and subsurface transport of materials associated with landscape management activities. The operations of the entomology facility would remain the same, but the size of the building and parking areas would increase. The subsequent collection and management of additional stormwater would lower surface water and groundwater transport and discharge of many potential water contaminants, including silts, fuel, oil, grease, and coolant (see Table 4-6).

4.1.4 Cumulative Impacts

There would be no significant cumulative impacts to surface water resources or stormwater flow due to implementing the proposed action or alternative. However, there would be more stormwater management due to the increase in impermeable surfaces. Estimated average annual stormwater flows are listed in Table 4-7. Active BMPs, collection, and management of these additional surface waters should minimize any chance for increased discharge concentrations.

As part of the proposed action, extra care would be taken to perform scheduled servicing of the catch basins, and any other stormwater collection points. This would ensure containment of construction debris, displaced silt, and fuel, oil, grease, and coolants from construction equipment. Additionally, the subsequent collection and management of stormwater flows would lead to a lowered transport and discharge of many potential water contaminants, including fertilizers, pesticides, fuel, oil, grease, and coolant.

When implementing with the proposed action or the Alternative 1 is combined with previous and other foreseeable future activities, flooding potential could be increased. Estimated peak stormwater flow rates for a 10-, 25-, 50-, and 100-year storm event with duration of 2 and 24 hours are listed in Table 4-8. If necessary, appropriate upgrades to existing stormwater management systems would be made to handle the increased flows.

Table 4-7
Estimated Average Annual Stormwater Flows for BAFB

Year	Estimated Impervious Surface Area (acres)	Estimated Stormwater Flow[1] (10^6 gallons/yr)	Precipitation Converted to Collected Stormwater (10^6 gallons/yr)
All Previous Construction	**411.5**[2]	176.6	0.00
FY 02	412.7	177.1	0.54
FY 03	427.4	183.5	6.84
FY 04	428.8	184.0	7.42
FY 05	431.8	185.3	8.72
Total	431.8	185.3	8.72
PA/A	0.09	0.04	0.04
Percent Accounted for by the PA/A	0.02%	0.02%	0.43%

[1] Assumes average annual precipitation of approximately 16 inches
[2] Source BAFB 2000
10^6 = 1,000,000
PA/A = Proposed Action/Alternative

Table 4-8
Peak Stormwater Flows for BAFB during 10-, 25-, 50-, and 100-Year Storm Events

Storm Frequency (years)	Duration (hrs)	Peak Intensity (in/hr)	Peak Stormwater Flow Rates (ft^3/s)						Percent 2005 Peak Flow Due to PA/A
			Previous	FY 02	FY 03	FY 04	FY 05	PA/A	
10	2	0.90	351.1	352.1	364.7	365.8	368.4	0.07	0.02
10	24	0.08	34.3	34.4	35.6	35.8	36.0	0.01	0.02
25	2	1.06	436.9	438.2	453.8	455.2	458.4	0.09	0.02
25	24	0.11	43.5	43.6	45.2	45.3	45.7	0.01	0.02
50	2	1.13	467.0	468.4	485.0	486.6	490.0	0.10	0.02
50	24	0.11	45.1	45.2	46.8	47.0	47.3	0.01	0.02
100	2	1.44	591.9	593.7	614.8	616.7	621.1	0.13	0.02
100	24	0.14	58.9	59.1	61.2	61.4	61.9	0.01	0.02

ft^3/s = cubic feet per second
hrs = hours
in/hr = inches per hour
PA/A = Proposed Action/Alternative

Although there would be no anticipated change to the documented 100-year floodplain, the potential for localized on base flooding during a significant precipitation event would be examined with respect to these ongoing changes. During such an event, spikes in transport of traditional surface pollutants such as particulates, oil, grease, and coolants could also be observed.

4.2 AIR QUALITY

Impacts to air quality would be considered significant if any criteria pollutant emissions associated with implementing either the proposed action or alternatives would exceed the rates specified for attainment/maintenance areas for CO, O_3, and PM_{10} (Table 4-9), would be regionally significant, or would contribute to a violation of the Title V permit limitations.

Table 4-9
Applicability Thresholds for Criteria Pollutants
for Denver Air Quality Control Region (AQCR 36)

Criteria Pollutants	TPY
O_3 (NO_x, SO_2 or NO_2)	
All maintenance areas	100
O_3 (VOCs)	
Maintenance areas inside an O_3 transport region	50
Maintenance areas outside an O_3 transport region	100
CO	
All maintenance areas	100
PM_{10}	
All maintenance areas	100

TPY = tons per year
Source: 40 CFR §93.153

This air quality analysis examined impacts from air emissions associated with the construction and operation of the entomology facility on BAFB. As part of the analysis, emissions generated from construction, motor vehicles, and other (non-mobile) sources were examined for CO, volatile organic compounds (VOCs), SO_2, NO_X, and PM_{10}. AS mentioned previously, due to the mobility of air pollutants, the ROI for this issue area includes Arapahoe County and the Metropolitan Denver AQCR 36.

4.2.1 No Action

Selecting the no action alternative would result in no impacts to ambient air quality conditions of the existing site, the proposed site, or surrounding areas since no construction or demolition activities would be undertaken. Ambient air conditions would remain as described in Section 3.2.

4.2.2 Proposed Action

Implementing the proposed action would have a minor, temporary impact on local air quality; however, emissions are not expected to exceed the rates specified for attainment/maintenance areas for CO, O_3, and PM_{10}, be regionally significant, or contribute to a violation of Title V permit limitations. The primary impact would be directly related to the generation of PM_{10} at and around both sites during the preliminary stages of construction and demolition activities. These emissions would primarily be a

function of (1) activities, such as grading and excavation; (2) movement of dust (wind erosion) from 'piled' materials; and (3) mechanical entrainment of road dust.

4.2.2.1 Construction Activities

The potential air quality impacts resulting from construction activities would be minor, temporary, and would disperse with distance from the site. As discussed previously, BMPs such as proper maintenance of construction vehicles, limiting the size of the disturbance area, and watering unpaved roadways, as necessary, would further minimize potential impacts.

USEPA AP-42 (1985) states that factors for fugitive dust emissions from heavy construction operations can be conservatively expressed in terms of total suspended particulate (TSP). The TSP emissions from construction-based activities depend on a number of considerations including, but not limited to:

- The number and type of vehicles (earthmovers);
- The construction activity (demolition and debris removal, site preparation, and general construction);
- The materials used (concrete);
- The controls utilized to minimize fugitive emissions from area sources (watering exposed soils); and
- The installation of gravel pavement.

Watering the disturbed area twice per day with approximately 3,500 gallons per acre would reduce TSP emissions by as much as 50 percent (USEPA 1995). A PM_{10} emissions factor of 0.6 ton per acre per year (5.18E-5 grams per square meter per second [g/m^2s]) was estimated for this activity with sufficient watering (USEPA 1995). Fugitive particle emissions due to the heavy construction activities are the only anticipated stationary sources of emissions during the construction phase of the proposed action. These increases would not significantly contribute to a violation of Title V permit limitations (Table 4-10).

Table 4-10
Construction PM_{10} Emissions for Stationary Sources

PM_{10} Emissions	TPY
Baseline[1]	12.0
Proposed Construction	0.5
Projected Total	12.5
Title V Permit Limits	99.9

[1] Total Stationary Source Emissions at BAFB (BAFB 2001)
TPY = tons per year

The USEPA recommends using the modified Pasquill-Gifford plume model outline in its guidance to "apply a simple screening procedure … to determine if either (1) the source clearly poses no air quality problem or (2) the potential for an air quality problem exists" (USEPA 1995). This analysis was based on a worst-case scenario with the construction footprint being 1.0 acre. The SCREEN3 computer model (USEPA) was used to estimate the downwind concentrations of PM_{10} using the following assumptions, and have been illustrated in Figure 4-1.

- Average Wind Speed 3 miles per hour (1.34 meters/second)
- Receptor Height 4.92 feet
- Source Height 32.80 feet

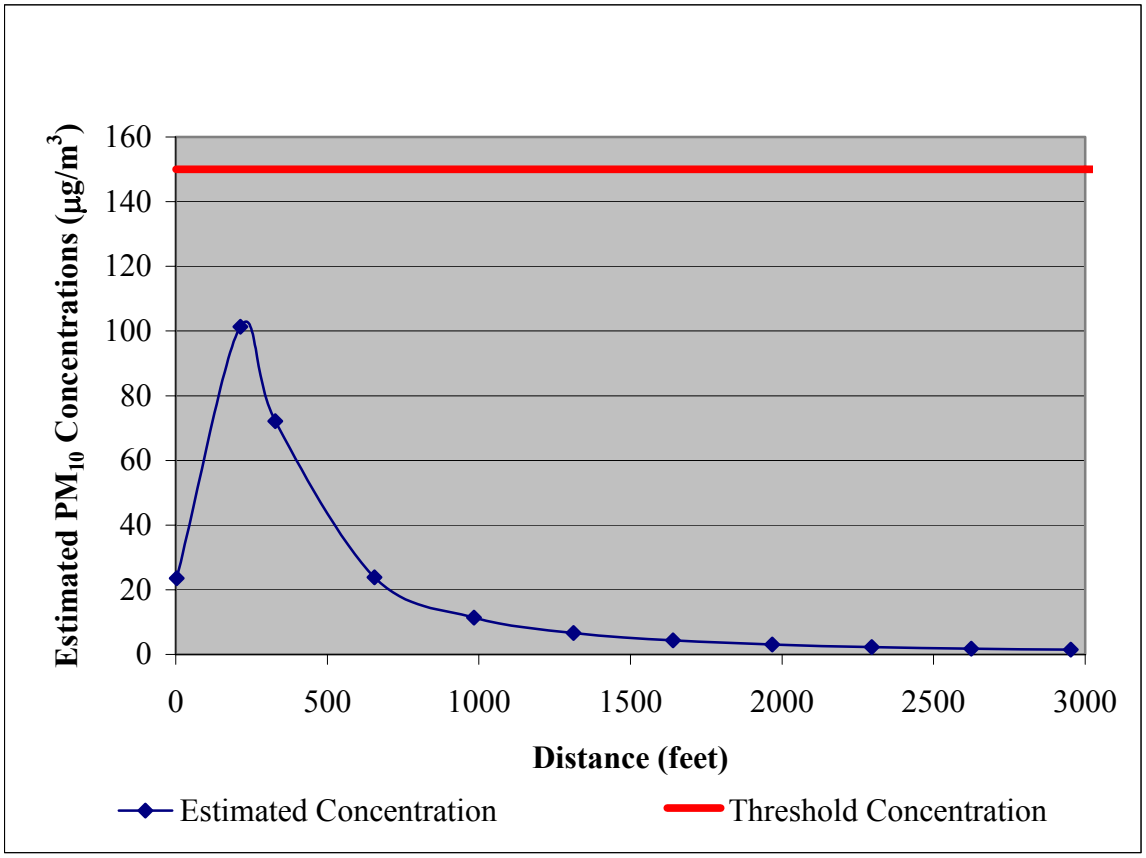

Figure 4-1. Estimated PM_{10} Concentration vs. Distance

The maximum PM_{10} concentration of 101 microgram per cubic meter ($\mu g/m^3$) at a distance of 213.20 feet from the site boundary was compared to the primary and secondary NAAQS PM_{10} for 24 hours of 150 $\mu g/m^3$. Since the maximum-modeled concentration is below the NAAQS for particulates, a potential for an elevated local concentration for PM_{10} would not be anticipated for this temporary activity. No decrease in visibility and subsequently no impact to airfield operations or aircraft safety would be

anticipated for the proposed action. Because the grading and construction activities are low to the ground, these estimated concentrations would drop off rapidly in a short distance; as a result, temporary impacts would be local and not regional. These estimates are averages, and at any instant, an actual instantaneous concentration is likely to be higher or lower based on local wind conditions.

Combustive emissions from construction equipment exhausts were estimated using emissions factors for diesel-powered off-road equipment (USEPA 1991; Waier 2001). The USEPA assumes that 230 working days (8 hours per day) are available per year for construction (accounting for weekends, weather, and holidays) (USEPA 1995). Criteria pollutant emissions associated with implementing the proposed action do not exceed the rates specified for attainment/maintenance areas for CO, O_3, and PM_{10} (Table 4-11).

Table 4-11
Total Construction and Demolition
Emissions Compared to Applicability Thresholds

Criteria Pollutants	Applicability Threshold (tpy)	Total Construction and Demolition Emissions (tpy)	Violates Applicability Threshold
NO_X	100	0.31	No
SO_2	100	0.02	No
VOCs	50(100)	0.19	No
CO	100	2.98	No
PM_{10}	100	0.53	No

tpy = tons per year

The proposed action is not regionally significant because the emissions do not exceed 10 percent or more of the attainment/maintenance area's total emissions for that particular pollutant (AQCR 36) (Table 4-12).

Table 4-12
Total Construction and Demolition Emissions
Compared to AQCR 36 Total Emissions

Criteria Pollutants	AQCR 217 Total Emissions* (tpd)	Construction and Demolition Emissions (tpd)	Percent Total	Regionally Significant
NO_X	313	0.00145	0.00046	No
SO_2	180	0.00009	0.00005	No
VOCs	507	0.00091	0.00018	No
CO	1203	0.01400	0.00116	No
PM_{10}	70	0.00250	0.00358	No

*Colorado Air-quality Control Commission (CAQCC) 2000, 2001a, 2001b
tpd = tons per day

4.2.2.2 Demolition Activities

The demolition of the existing entomology facility would generate debris containing a wide range of inert materials and particle sizes, including mixed rubble, concrete, steel beams, bricks, wood, pipes, earth and stone. The abundance of these materials would be

greater than 10 µm. The concrete dust from the building razing would be in the 4-100µm range and the clay and silt displaced would be approximately 0.1-100µm (Hemond 1994) all other inert materials would most likely be greater than 10µm. For analysis purposes, a conservative estimate of 5 percent of the materials disturbed at the site would be greater than 10µm. For the demolition activities, the dozer cut and fill of over burden emission factors from AP-42 11.9 Western Surface Coal Mining are appropriate (USEPA 1985). An emission factor of 0.87 pound per hour (lb/hour) for demolition activities was calculated. Overall, PM_{10} emissions for demolition of the existing facility were estimated to be 0.17 tons.

Building 306, the current entomology building, is within the footprint of former World War II buildings; there is the potential for subsurface ACMs (i.e., piping or building remnants). However, since the current entomology building was constructed after the demolition of World War II buildings, the majority of the subsurface ACMs should have been located during previous construction activities. BAFB is aware of the slight potential for ACMs at this site and would inform all contract personnel working at the site of this potential. Demolition activities would be halted upon finding any subsurface debris. ACMs are independently regulated and would be expected to have a particle size of 0.1-10µm (Wentz 1995). Asbestos is harmless until airborne. Disruption of ACMs, if present, may constitute a slight temporary impact to local outdoor air quality; however, it would not be significant. Because of the uncontained nature of the material and the low concentrations, anticipated risk to human welfare and the environmental would be low. All demolition debris, including potential ACMs, if present, would be handled and disposed of in accordance with all applicable federal, state, and local laws and regulations. BAFB does not anticipate any ACMs present at the proposed construction site adjacent to the CE Complex, since it is outside the footprint of former World War II structures.

4.2.2.3 Operations

There would be minor indirect emissions from support services after construction and demolition completion. For an increase in building size of 840 SF, a corresponding estimate increase in basewide natural gas usage of 108,000 cubic feet per year would be anticipated for heating and cooling of the building. Associated emissions would not exceed the rates specified for attainment/maintenance areas for CO, O_3, and PM_{10}, would not be "regionally significant," or significantly contribute to a violation of Title V permit limitations (Table 4-13).

There are 188 hazardous air pollutants (HAPs), also known as toxic air pollutants, specifically listed by the USEPA pursuant to Title III of the CAA amendments. HAPs are pollutants that cause or may cause serious health effects and have adverse environmental or ecological effects. HAPs emitted by natural gas boilers include arsenic, cadmium, chromium, lead, manganese, mercury, and nickel. Estimated organic and inorganic HAP emissions that would result from implementing the proposed action,

Table 4-13
Estimated Emissions from Anticipated Support Services

Constituent	Emission Factor ($lb/10^6 ft^3$)	Total Increase in Emissions (tpy)
CO	40.0	0.0022
NO_X	94.0	0.0051
PM_{10}	7.6	0.00041
SO_2	0.6	0.00003
VOC, non-methane	5.5	0.0003

lb = pound
10^6 = 1,000,000
ft^3 = cubic feet
tpy = tons per year

estimated at 0.000102 tons per year (tpy), which would not be considered significant, are listed by individual organic and inorganic component in Tables 4-14 and 4-15.

Table 4-14
Estimated Organic HAP Emissions

Constituent	Emission Factor ($lb/10^6 ft^3$)	Fuel ($10^6 ft^3$)	Total Increase in HAP Emissions (tpy)
Benzene	2.10E-03	0.108	1.14E-07
Dichlorobenzene	1.20E-03	0.108	6.49E-08
Formaldehyde	7.50E-02	0.108	4.05E-06
Hexane	1.80E+00	0.108	9.73E-05
Naphthalene	6.10E-04	0.108	3.30E-08
Polycyclic Organic Matter	8.85E-05	0.108	4.78E-09
Toluene	3.40E-03	0.108	1.84E-07
		Total	1.02E-04

lb = pound
10^6 = 1,000,000
ft^3 = cubic feet
tpy = tons per year

The additional HAP emissions constitute less than 0.1 percent of the entire on-base HAP emissions, which is 0.83 tpy at BAFB. However, the USEPA is proposing NESHAP emissions for industrial/commercial/institutional boilers and process heaters. The proposed rule would implement Section 112(d) of the CAA by requiring all major sources to meet HAP emission standards reflecting the application of the maximum achievable control technology (MACT) (Federal Register 68:8, Monday, 13 January 2003).

Table 4-15
Estimated Inorganic HAP Emissions

Constituent	Emission Factor ($lb/10^6 ft^3$)	Fuel ($10^6 ft^3$)	Total Increase in HAP Emissions (tpy)
Arsenic	2.00E-04	0.108	1.08E-08
Beryllium	1.20E-05	0.108	6.49E-10
Cadmium	1.10E-03	0.108	5.95E-08
Chromium	1.40E-03	0.108	7.57E-08
Cobalt	8.40E-05	0.108	4.54E-09
Lead	5.00E-04	0.108	2.70E-08
Manganese	3.80E-04	0.108	2.05E-08
Mercury	2.60E-04	0.108	1.41E-08
Nickel	2.10E-03	0.108	1.14E-07
Selenium	2.40E-05	0.108	1.30E-09
		Total	3.28E-07

lb = pound
10^6 = 1,000,000
ft^3 = cubic feet
tpy = tons per year

4.2.3 Alternative 1

Implementing Alternative 1 would have a minor, temporary impact on local air quality; however, emissions would not be expected to exceed the rates specified for attainment/maintenance areas for CO, O_3, and PM_{10}, be regionally significant, or contribute to a violation of Title V permit limitations. Similar to the proposed action, the primary impact would be directly related to the generation of PM_{10} at and around the site during the preliminary stages of construction.

4.2.3.1 Construction Activities

Implementing Alternative 1 would be expected to have similar impacts to the proposed action, although, an overall decrease in PM_{10} emissions would be expected due to the lack of demolition activities. Fugitive particle emissions due to the heavy construction activities are the only anticipated stationary sources of emissions during construction activities. These emission increases would not significantly contribute to a violation of Title V permit limitations (Table 4-16).

The site footprint for Alternative 1 would be similar to the proposed action. The maximum PM_{10} concentration of 101 $\mu g/m^3$ at a distance of 213.20 feet from the site boundary was compared to the primary and secondary NAAQS PM_{10} for 24 hours of 150 $\mu g/m^3$ (see Figure 4-1). Since the maximum-modeled concentration is below the NAAQS for particulates, a potential for an elevated local concentration for PM_{10} would not be anticipated for this temporary activity. No decrease in visibility and subsequently no impact to airfield operations or aircraft safety would be anticipated for the proposed action.

Table 4-16
Construction PM_{10} Emissions from Stationary Sources for Alternative 1

PM_{10} Emissions	TPY
Baseline[1]	12.0
Proposed Construction	0.3
Projected Total	12.3
Title V Permit Limits	99.9

[1] Total Stationary Source Emissions at BAFB (2001)
TPY = tons per year

Table 4-17 lists the estimated combustive emissions from construction equipment for Alternative 1. Emissions associated with this alternative would not be regionally significant because the emissions do not exceed 10 percent or more of the attainment/maintenance area's total emissions for that particular pollutant (AQCR 36) (Table 4-18).

Table 4-17
Total Alternative 1 Construction Emissions Compared to Applicability Thresholds

Criteria Pollutants	Applicability Threshold (tpy)	Total Construction Emissions (tpy)	Violates Applicability Threshold
NO_X	100	0.31	No
SO_2	100	0.02	No
VOCs	50(100)	0.19	No
CO	100	2.98	No
PM_{10}	100	0.36	No

tpy = tons per year

Table 4-18
Total Alternative 1 Construction Emissions Compared to AQCR 36 Total Emissions

Criteria Pollutants	AQCR 217 Total Emissions* (tpd)	Construction Emissions (tpd)	Percent Total	Regionally Significant
NO_X	313	0.00145	0.00046	No
SO_x	180	0.00009	0.00005	No
VOCs	507	0.00091	0.00018	No
CO	1203	0.01400	0.00116	No
PM_{10}	70	0.00170	0.00240	No

*Colorado Air-quality Control Commission (CAQCC) 2000, 2001a, 2001b
tpd = tons per day

4.2.3.2 Operations

There would be minor indirect emissions from operational support services. A 1,000 SF increase in building size would have a corresponding estimated increase in basewide natural gas usage of 124,000 cubic feet per year for heating and cooling activities. Associated emissions would not exceed the rates specified for attainment/maintenance areas for CO, O_3, and PM_{10}, would not be "regionally significant," or significantly contribute to a violation of Title V permit limitations (Table 4-19).

Table 4-19
Estimated Emissions from Anticipated Support Services for Alternative 1

Constituent	Emission Factor ($lb/10^6 ft^3$)	Total Increase in Emissions (tpy)
CO	40.0	0.00248
NO_x	94.0	0.00583
PM_{10}	7.6	0.00047
SO_x	0.6	0.00004
VOC, non-methane	5.5	0.00034

lb = pound
10^6 = 1,000,000
ft^3 = cubic feet
tpy = tons per year

Organic and inorganic HAP emissions that would result from implementing Alternative 1, estimated at 0.000117 tons per year, are listed by component in Tables 4-20 and 4-21. The additional HAP emissions constitute less than 0.1 percent of the entire on-base HAP emissions, which is 0.83 tons per year at BAFB, which would not be considered significant.

Table 4-20
Estimated Organic HAP Emissions for Alternative 1

Constituent	Emission Factor ($lb/10^6 ft^3$)	Fuel ($10^6 ft^3$)	Total Increase in HAP Emissions (tpy)
Benzene	2.10E-03	0.124	1.30E-07
Dichlorobenzene	1.20E-03	0.124	7.44E-08
Formaldehyde	7.50E-02	0.124	4.65E-06
Hexane	1.80E+00	0.124	1.12E-04
Naphthalene	6.10E-04	0.124	3.78E-08
Polycyclic Organic Matter	8.85E-05	0.124	5.49E-09
Toluene	3.40E-03	0.124	2.11E-07
		Total	1.02E-04

lb = pound
10^6 = 1,000,000
ft^3 = cubic feet
tpy = tons per year

4.2.4 Cumulative Impacts

There would be no significant cumulative impacts to air quality due to the proposed action or Alternative 1. Cumulative impacts to air quality were considered significant if construction or operational emissions for previous, proposed, and reasonably foreseeable future construction activities would exceed the *de minimus* rate specified for attainment/maintenance areas (see Table 4-2), would be regionally significant, would or contribute to a violation of the Title V permit limitations.

Table 4-21
Estimated Inorganic HAP Emissions for Alternative 1

Constituent	Emission Factor ($lb/10^6 ft^3$)	Fuel ($10^6 ft^3$)	Total Increase in HAP Emissions (tpy)
Arsenic	2.00E-04	0.124	1.24E-08
Beryllium	1.20E-05	0.124	7.44E-10
Cadmium	1.10E-03	0.124	6.82E-08
Chromium	1.40E-03	0.124	8.68E-08
Cobalt	8.40E-05	0.124	5.21E-09
Lead	5.00E-04	0.124	3.10E-08
Manganese	3.80E-04	0.124	2.36E-08
Mercury	2.60E-04	0.124	1.61E-08
Nickel	2.10E-03	0.124	1.30E-07
Selenium	2.40E-05	0.124	1.49E-09
		Total	3.28E-07

lb = pound
10^6 = 1,000,000
ft^3 = cubic feet
tpy = tons per year

4.2.4.1 Construction Activities

The PM_{10} emissions were identified as the primary pollutant from proposed construction and demolition activities. The PM_{10} emissions anticipated during construction activities are listed in Table 4-22. These emissions levels would not constitute a significant cumulative impact. The analysis was based on approximate building square footage and surface parking.

Table 4-22
PM_{10} Emissions for Previous, Proposed, and Reasonably Foreseeable Construction Activities

	All Previous Construction	FY 02	FY 03	FY 04	FY 05	Total
Baseline PM_{10} Emissions (tons)	NA	12.0	12.0	12.0	12.0	
PM_{10} Emissions from PA/A (tons)	NA	0.0	0.0	0.53	0.0	0.53
Other Reasonably Foreseeable Construction PM_{10} Emissions (tons)	NA	4.5	52.5	4.9	10.3	
Total (tons)	513.4	16.4	64.8	17.4	22.8	634.8
Title V Permit Limits for Potential PM_{10} Emissions (tons)	NA	99.9	99.9	99.9	99.9	
Percent Emissions Accounted for by the PA/A	0.0%	0.0%	0.0%	3.0%	0.0%	0.08%

NA = not applicable
PA/A = Proposed Action or Alternative

4.2.4.2 Facilities Operations

There would be minor ongoing emissions from support services after completion of construction activities. These cumulative emissions would not be considered significant. Emissions would not exceed the rates specified for attainment/maintenance areas for CO, O_3, and PM_{10}, be regionally significant, or significantly contribute to a violation of Title V permit limitations (Table 4-23). The analysis was based on approximate occupied building square footage and surface parking.

Construction activities would increase the amount of short-term mobile emissions on BAFB; however, active monitoring and maintenance of construction equipment would reduce overall impacts during construction. Operational emissions should be minor and not add significantly to BAFB total yearly emissions.

Table 4-23
Emissions for Previous, Proposed, and Reasonably Foreseeable Heating and Cooling Activities

Year	Occupied Space (Acres)	Estimated Basewide Natural Gas Usage for Heating and Cooling (10^6 ft^3)	CO (tpy)	NO_x (tpy)	PM_{10} (tpy)	SO_x (tpy)
All previous construction	50.6	199.8				
FY 02	51.3	202.4	8.3	10.1	0.8	0.1
FY 03	59.0	232.9	9.6	11.6	0.9	0.1
FY 04	59.7	235.8	9.7	11.8	0.9	0.1
FY 05	61.3	242.0	10.0	12.1	0.9	0.1
PA/A	0.046	0.108	0.0022	0.0051	0.0004	0.00003
Total	61.3	242.0	37.6	45.6	3.5	0.3
PA/A as a Percentage of 5-Year Cumulative Emissions	0.075%	0.045%	0.006%	0.011%	0.012%	0.011%

10^6 = 1,000,000
ft^3 = cubic feet
tpy = tons per year
PA/A = Proposed Action or Alternative

4.3 BIOLOGICAL RESOURCES

As mentioned previously, the USFWS and the CDOW maintain protected species lists (endangered, threatened, proposed candidate, or species of concern) for species that occur or could potentially occur within Arapahoe County. If species do occur, implementing the proposed action or alternatives could affect these species and their habitat through ground-disturbing activities and increase in impervious cover. Potential effects to biological resources for both listed and nonlisted species will be estimated in this EA based on the number of acres of habitat and/or the number of individual species affected. Impacts to biological resources would be significant if there were substantial adverse effects on protected species or their habitats or if there were any substantial adverse impacts to other sensitive habitats. Impacts to biological resources would be significant

if there were substantial adverse effects on protected species or their habitats or if there were any substantial adverse impacts to other sensitive habitats. The ROI for this resource area is the existing and proposed sites, as compared to the rest of the installation.

4.3.1 No Action

Selecting the no action alternative would result in no ground-disturbing activities and therefore no alteration/disturbance of existing vegetative cover. Due to the absence of ground-disturbing activities at the existing site, vegetation and wildlife, including protected species, would not be significantly impacted.

4.3.2 Proposed Action

Implementing the proposed action would not result in significant impacts to biological resources. The proposed action in the short-term would remove approximately 1.0-acre of previously disturbed, historically seeded, crested wheatgrass prairie, which is highly prevalent in disturbed areas and is not considered a sensitive community type. Additionally, no listed species (including black-tailed prairie dogs and burrowing owls), or their habitat, have been observed on or adjacent to the proposed site. As mentioned previously, in accordance with BAFB policy, surveys would be conducted prior to commencement of construction activities to verify the presence/absence of either black-tailed prairie dogs or burrowing owls. Any black-tailed prairie dogs present would be removed prior to commencing construction activities using approved removal methods. If nesting burrowing owls were present, construction activities would be scheduled between November through February, when nesting owls would not be present or activities would commence once the burrowing owls have fledged and can be removed from the nests, which would ensure no long-term impacts to this species. If black-tailed prairie dogs and/or burrowing owls were identified after commencement of construction, construction activities would be halted and the 460 CES/CEVP would be contacted for further instructions.

4.3.3 Alternative 1

Implementing this alternative would result in no significant impact to biological resources. Potential environmental consequences would be similar to those of the proposed action.

4.3.4 Cumulative Impacts

Construction and operational activities associated with the proposed action or Alternative 1 would remove approximately 1.0 acres of previously disturbed, undeveloped vegetation, which is less than 1.0 percent of the total undeveloped surface on BAFB. There are currently no protected species or species of local concern (i.e., black-tailed prairie dogs or burrowing owls) located within the existing or proposed sites and

therefore development associated with the proposed action or alternative would not, in the short-term, cumulatively impact these populations on BAFB. Protected species and species of local concern would be managed under the guidance of the Supplemental EA of the Proposed Prairie Dog Management Practices at BAFB, dated June 2001.

4.4 SOCIAL OR ECONOMIC RESOURCES (INCLUDING ENVIRONMENTAL JUSTICE)

Implementing the proposed action or alternatives could affect the local demographics, employment, and income potential, as well as localized minority and/or low-income populations. Significant impacts would occur to income and employment if an unacceptable change (i.e., significant loss or decrease) in these components occurs. There would be significant environmental justice impacts if a disproportionate amount of the adverse effects of the action were felt by minority and/or low-income populations. The ROI for this issue area is defined as USCB 2000 Census Tract 71.02, Block Group 9, Arapahoe County, Colorado (USCB 2002).

4.4.1 No Action

Selecting the no action alternative would result in no impacts to social or economic resources, including population, income and employment, or housing, in Arapahoe County or within the USCB census tract containing BAFB. Since there would be no construction or demolition activities and current operations would continue, there would be no potential increase in employment opportunities or any reductions in the number of employment opportunities. Since there are no anticipated employment changes as a result of selecting the no action alternative, there would be no changes in the population growth rate or demographics, no anticipated change in income potential, and no anticipated change in housing starts.

Arapahoe County would not be considered an area of concentrated minority population, nor would it be considered a poverty area. Likewise, USCB Census Tract 71.02 and Block Group 9 would not be considered areas of concentrated minority population nor poverty areas. Since there would be no anticipated impacts to population, income and employment, and housing, there would be no anticipated disproportionate impacts to minority or low-income populations.

4.4.2 Proposed Action

Similar to the no action alternative, implementing the proposed action would result in no significant impacts to social or economic resources, including population, income and employment, and housing, within Arapahoe County or within the USCB census tract containing BAFB. Construction activities, if provided by an outside contractor, would be likely to increase short-term spending within the area immediately surrounding BAFB; however, this impact would have likely occurred elsewhere in the region, unless new

employment opportunities were created or formerly unemployed workers found employment. New employment opportunities are anticipated in the future from the operation of the new entomology facility; however, these opportunities could be transfers from other positions or may not occur due to future funding shortfalls. Additionally, construction spending would be concentrated within the local area, thereby reducing the probability of a change in population growth based on this alternative. Without a change in the population growth rate, housing starts would likely remain static. The only anticipated impacts from implementing the proposed action would be the short-term spending increase for goods and services (food and beverage retailers) within the immediate vicinity of BAFB, which would subside after construction activities have concluded.

Arapahoe County would not be considered an area of concentrated minority population, nor would it be considered a poverty area. Likewise, USCB Census Tract 71.02 and Block Group 9 would not be considered areas of concentrated minority population nor poverty areas. Since there would be no anticipated long-term impacts to population, income and employment, and housing, there would be no anticipated disproportionate impacts to minority or low-income populations.

4.4.3 Alternative 1

Implementing this alternative would result in no significant impacts on the population, income, employment, or housing characteristics of Arapahoe County or the immediate project area. Potential environmental consequences would be similar to those of the proposed action.

4.4.4 Cumulative Impacts

There would be no cumulative social or economic impacts due to the proposed action or alternatives since there would not be an increase or decrease in total employment at BAFB.

4.5 LAND USE AND TRANSPORTATION

Potential land use impacts are based upon an area's degree of sensitivity to land use changes. Typically, land use impacts are thought to be significant if they would: (1) violate or otherwise be inconsistent with adopted land use plans or policies; (2) undermine the viability of a favored existing land use activity; (3) create threats to the public health, safety, and welfare of the occupants of adjacent or nearby land users; or (4) conflict with the fundamental mission of an installation. Impacts to transportation networks would be significant if the total capacity of the system was exceeded. The ROI for land use includes the current and planned land uses as described in the BAFB General Plan for the existing and proposed sites, as well as the adjacent areas. The ROI for transportation is the installation transportation networks.

4.5.1 No Action

Selecting the no action alternative would be inconsistent with BAFB's adopted land use plan. Before the no action alternative is selected, more in-depth review would be required to determine if this selection would significantly impact the land or whether the General Plan would need to be modified; however, it would not create any changes in transportation. Under this alternative, the existing entomology facility would remain at the current location, and no construction or demolition activities would occur. By remaining at the existing site, this alternative would not be consistent with the BAFB General Plan and designated planned land uses. The inefficiencies that result from this potential arrangement prevent optimal land use patterns from fully developing.

4.5.2 Proposed Action

Implementation of the proposed action would result in no significant adverse impacts to land use at BAFB; however, slight beneficial impacts can be expected. The operation of the entomology facility would further BAFB's mission and enhance compliance with federal and USAF regulations concerning the handling and use of pesticides. Implementing the proposed action would be consistent with the BAFB General Plan and with the planned land uses. The proposed use is consistent with the planned Industrial designation of the proposed site. Additionally, this alternative would be consistent with AICUZ planning and design guidelines. Since the proposed site would be located in the interior of BAFB, there would be no impacts to land uses outside BAFB boundaries.

Implementing the proposed action would not result in significant impacts to transportation resources. As discussed earlier, there may be temporary negative impacts to Aspen Avenue resulting from increased traffic associated with construction and demolition activities. As mentioned previously, Aspen Avenue is a 4-lane primary route, and the temporary increase in traffic would not be expected to adversely impact area traffic patterns. There would be no permanent changes to on- or off-base transportation patterns, capacity, or volume.

4.5.3 Alternative 1

Implementing Alternative 1 would be inconsistent with BAFB's adopted land use plan. Before Alternative 1 is selected, more in-depth review would be required to determine if this selection would significantly impact the land or whether the General Plan would need to be modified; however, it would not create any changes in transportation. Under this alternative, an annex to the existing entomology facility would be constructed at the current location. The inefficiencies that result from this potential arrangement could prevent optimal land use patterns from fully developing.

4.5.4 Cumulative Impacts

Under the proposed action, all activities would be located consistent with the BAFB General Plan, thereby not creating cumulative impacts to land use on BAFB. Since these activities would be located within the interior of the installation, there should be no impacts to current or planned land use activities on non-military lands surrounding BAFB. The General Plan was developed in coordination with surrounding communities to lessen future impacts that developments at BAFB could potential create. Future developments on BAFB would occur within the appropriate land use category as described in the General Plan, which would coincide with planned land uses of adjacent non-military lands and avoid cumulative impacts to land use and transportation.

Selecting the no action alternative or implementing Alternative 1, could create cumulative impacts through non-optimal land use development. Under either of these alternatives, siting the entomology facility at the current location would not be consistent with the BAFB General Plan and planned land uses. This siting would prevent optimal land use patterns from fully developing within this portion of the installation. Alteration of portions of the BAFB General Plan would be required to ensure appropriate compatibility of land uses surrounding the current area.

4.6 PUBLIC UTILITIES

Potential impacts to public utilities are based upon the capacity of the existing systems. Municipal systems are planned under constant growth assumptions over long periods (20-40 years). Unexpected rapid development within municipalities or the urban fringe can add stresses to both the community infrastructure (i.e., water and wastewater systems) and the community services (i.e., fire, police, schools). A significant impact to public utilities would be an exceedance to the current capacity of the system. The ROI for this issue area is the installation utility infrastructure system and the adjoining public utility systems.

4.6.1 No Action

Selecting the no action alternative would result in no changes to the public utilities in and around BAFB. There would be no construction of new facilities and no increase in demand for utilities, such as energy or water services. Under this alternative, the existing entomology facility would remain at the current location and no construction activities would occur. As a result, no significant adverse impacts would occur, and baseline conditions would remain as described in Section 3.6.

4.6.2 Proposed Action

Implementing the proposed action would result in no significant impacts to public utilities. The proposed action would likely result in long-term small additional demands

on municipal public utilities. However, the increased utility demand would not be substantial and should be within the existing capacity of the provider.

4.6.3 Alternative 1

Implementing this alternative would have no significant impacts to public utilities. Potential environmental consequences would be similar to those of the proposed action.

4.6.4 Cumulative Impacts

Since implementing either the proposed action or Alternative 1 would require continued use of existing public utilities, there would be a slight increase in demand for these services. However, due to the small increase in demand these activities would require, there would be no short-term adverse changes in the level of service (Table 4-24). Future development at BAFB could cumulatively increase utility demand by approximately 40 percent over the current usage based on the estimated square footage built per year.

Table 4-24
Estimated Increase in Utility Demand

Parameter	Current	FY 02	FY 03	FY 04	FY 05	PA/A
SF	2,200,000	54,250	638,258	59,040	131,445	2,255
Electricity (kwh/m^1)	8,862,732	218,547	2,571,232	237,843	529,528	9,084
Gas (ft^3/m^2)	156,412	3,857	45,378	4,198	9,345	160
Water (mgm^3)	5.95	0.15	1.72	0.16	0.36	0.01
Cumulative Percent Increase in Utility Demand		2	31	34	40	0.1

PA/A = Proposed Action or Alternative
kwh/m = kilowatt hour per month
ft^3/m = cubic feet per month
mgm = million gallons per month
[1] Average electricity usage per square foot = 4.03 kilowatt hour based on FY 02 utility usage at BAFB
[2] Average gas usage per square foot = 0.07 cubic feet based on FY 02 utility usage at BAFB
[3] Average water usage per square foot = 9.01E-08 million gallons per day based on FY 02 utility usage at BAFB

4.7 HAZARDOUS MATERIALS AND SUBSTANCES

Implementing the proposed action or alternatives could disturb and/or generate hazardous wastes, consume hazardous materials, and/or disturb known hazardous materials facilities listed on federal and state databases. Potential effects associated with hazardous materials will be determined by the absence/presence of listed facilities within standard search radii and the hazardous waste management requirements associated with construction activities. The ROI for this issue area would be the existing and proposed sites and immediately adjacent areas.

4.7.1 No Action

Selecting the no action alternative would result in no ground-disturbing activities; therefore there would be no alteration or disturbance of soils and no generation of wastes as the result of construction.

4.7.2 Proposed Action

4.7.2.1 Hazardous Materials and Hazardous Wastes

Implementing the proposed action would result in no significant adverse impacts from hazardous materials/hazardous wastes used or generated at BAFB. The proposed action would be strategically located and designed to provide a convenient location to manage and use pesticides, which would improve material control, lessen the chance of spills, and provide a means for instant spill containment.

Hazardous materials utilized during construction activities would likely include fuels, paints, glues, etc. Most of these materials would typically be consumed in their entirety and very little waste generated for disposal. As a result, no significant amounts of construction-related hazardous materials would be expected, and any hazardous materials generated during the activities would be disposed of in accordance with all applicable federal, state, and local regulations.

Additionally, parking for designated Government-owned entomology vehicles would be within the building or enclosed garage only. If unexpected spills were to occur, spill containment measures would be implemented, which would include stopping the spill, cleaning any contaminated surfaces, and removing any contaminated materials (i.e., contaminated gravel).

Pesticide use would be expected to be approximately the same as current operations, which do not currently trigger EPCRA Tier II standards. All materials would be stored where the building has secondary containment measures to prevent unregulated releases of any entomological substances within the environment.

4.7.2.2 Asbestos

Implementing the proposed action would result in no significant impacts from subsurface ACM. ACMs would not be expected to occur at the proposed site, adjacent to the CE Complex, since it would be outside the footprint of World War II-era structures formerly occupying BAFB (see Figure 3-2). Since ground-disturbing activities occurred during the construction of the existing entomology facility, subsurface ACMs were likely located and disposed. However, if any subsurface debris were located during the demolition of the existing facility, activities would be halted and the area would be evaluated. Appropriate response plans would then be developed and implemented, as

necessary, per applicable laws and regulations to ensure that contamination, if present, would not be released into the environment.

4.7.3 Alternative 1

Implementing this alternative would result in no significant impact from hazardous materials, hazardous wastes, or ACMs. Potential environmental consequences would be similar to those of the proposed action.

4.7.4 Cumulative Impacts

All hazardous materials and hazardous wastes used or generated during the proposed action or Alternative 1 would be used and disposed of according to all applicable regulations, thereby ensuring no cumulative impacts. Following all federal, state, and local laws and regulations, all new materials used for construction would not contain ACM and if any ACMs were found during the demolition or construction of the facilities it would be disposed of following all applicable regulations, thereby ensuring no cumulative impacts.

SECTION 5.0
LIST OF PREPARERS

Name/Title	Expertise/Experience	Involvement
Chris Clark, Geo-Marine, Inc. *NEPA Specialist*	NEPA Studies *4 years*	Transportation and Public Services and Infrastructure
Donna DeYoung, Geo-Marine, Inc. *Hazardous Materials Specialist*	Hazardous Materials *3 years*	Hazardous Materials
Melissa Green, Geo-Marine, Inc. *Principal Investigator*	Anthropology *20 years*	Cultural Resources
Kurt Hellauer, Geo-Marine, Inc. *Airspace and Land Use Analyst*	Land Use *13 years*	Land Use
John Keiffer, Geo-Marine, Inc. *Noise Analyst*	Acoustics *2 years*	Noise
Tim Lavallee, LPES, Inc. *Air Quality Specialist*	Air Quality *4 years*	Air Quality
Ron Moore, Geo-Marine, Inc. *NEPA Program Manager*	NEPA Studies *10 years*	NEPA Review
David Pitts, Geo-Marine, Inc. *Biologist*	Biology *10 years*	Hydrologic Resources Biological Resources
Rae Lynn Schneider, Geo-Marine, Inc. *NEPA Project Manager/Economist*	NEPA Studies Economic Analysis *4 years*	Project Management Purpose and Need Alternatives Social or Economic Resources

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SECTION 6.0
DISTRIBUTION LIST AND AGENCIES AND INDIVIDUALS CONTACTED

Aurora Central Library
14949 East Alameda Drive
Aurora, Colorado 80012

Denver Public Library, Government Documents Section
10 West 14th Avenue
Denver, Colorado 80204

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Denver, Colorado 80222

Georgianna Contiguglia, State Historic Preservation Officer
Colorado History Museum
1300 Broadway
Denver, Colorado 80203-2137

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SECTION 7.0
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SECTION 8.0
ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per cubic meter
µm	microns
AAFES	Army/Air Force Exchange Service
ABW	Air Base Wing
ACM	asbestos-containing material
ADAL	addition/alteration
AFI	Air Force Instruction
AICUZ	Air Installation Compatible Use Zone
a.m.	ante meridian
APCD	Air Pollution Control Division
AQCR	Air Quality Control Region
BAFB	Buckley Air Force Base
BANGB	Buckley Air National Guard Base
BEA	Bureau of Economic Analysis
BMP	best management practice
CAA	Clean Air Act
CAQCC	Colorado Air Quality Control Commission
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and the Environment
CE	civil engineering
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CES	Civil Engineering Squadron
CEVP	Environmental Management
CFR	Code of Federal Regulations
CMU	concrete masonry unit
CO	carbon monoxide
COANG	Colorado Air National Guard
COARNG	Colorado Army National Guard
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel level
DNL	day-night average sound level
EA	environmental assessment
EDR	Environmental Data Resources, Inc.
EIS	environmental impact statement
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	environmental restoration program
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FICON	Federal Interagency Committee on Noise

FIRE	finance, insurance, and real estate
FONSI	finding of no significant impact
ft^3	cubic feet
FY	fiscal year
g/m^2s	grams per square meter per second
HAP	hazardous air pollutants
HVAC	heating, ventilation, and air conditioning
lb/hour	pound per hour
LBP	lead-based paint
MACT	maximum available control technology
MMBTU	million British thermal units
MSW	municipal solid waste
NAA	nonattainment areas
NAAQS	National Ambient Air Quality Standards
NAF	non-appropriated funds
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NO_X	nitrous oxides
NOI	notice of intent
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
ODS	ozone-depleting substance
OSHA	Occupational Safety and Health Administration
Pb	lead
PCB	polychlorinated biphenyl
pCi/l	pico-Curies per liter
PL	Public Law
p.m.	post meridian
PM_{10}	particulate matter measuring less than 10 microns in diameter
POL	petroleum, oil, and lubricants
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
ROI	region of influence
RTD	Regional Transport District
SARA	Superfund Amendments and Reauthorization Act
SBIRS	space-based infrared surveillance
SEL	sound exposure level
SF	square feet
SIP	State Implementation Plan
SO_2	sulfur dioxide
SQG	small quantity generator
SWPPP	Stormwater Pollution Prevention Plan
tpy	tons per year
TSCA	Toxic Substances Control Act
TSP	total suspended particulate

USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	U.S. Code
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compound

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APPENDIX A:

USAF FORM 813

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REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS	Report Control Symbol RCS: CRWU 03-1018

INSTRUCTIONS: *Section I to be completed by Proponent; Sections II and II to be completed by Environmental Planning Function. Continue on Separate Sheets as necessary. Reference appropriate item number(s).*

SECTION I - PROPONENT INFORMATION

1. TO (Environmental Planning Function)	2. FROM (Proponent organization and functional address symbol)	2a. TELEPHONE NO.
460 CES/CEVP	460 CES/CEC	7-6396

3. TITLE OF PROPOSED ACTION
Construct Entomology Building

4. PURPOSE AND NEED FOR ACTION (*Identify decision to be made and need date).*
Provide a properly sized building that meets all regulatory requirements, including Air Force Instructions and the Military Handbook for design and construction. Existing facility does not meet the standards and is not in a compatible land use area; therefore, the proposal includes constructing the building in an industrial land use area.

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPPA) (Provide sufficient details for evaluation of the total action)
See Attached

6. PROPONENT APPROVAL (*Name and Grade*)	6a. SIGNATURE	6b. DATE
TSgt Kellogg		23 Apr 03

SECTIONII - PRELIMINARY ENVIRONMENTAL SURVEY. (*Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = Unknown effect.*	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (*Noise, accident potential, encroachment, etc.*) Requires review of noise contours and routine operations of the entomology building for long-term. Short-term construction noise.				X
8. AIR QUALITY (*emissions, attainment status, state implementation plan, etc.)* Short-term fugitive dust for construction.			X	
9. WATER RESOURCES (Quality, quantity, source, etc.)		X		
10. SAFETY AND OCCUPATIONAL HEALTH (*Asbestos/radiation/chemical exposure, explosives safety quantity-distance, etc.)*	X			
11. HAZARDOUS MATERIALS/WASTE (*Use/storage/generation, solid waste, etc))*	X			
12. BIOLOGICAL RESOURCES (*Wetlands/floodplains, flora, fauna, etc)* Not expected – potential for impact to burrowing owl and/or black-tailed prairie dog.		X		
13.CULTURAL RESOURCES (*Native American burial sites, archeological, historical, etc.)*		X		
14.GEOLOGY AND SOILS (*Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*		X		
15.SOCIOECONOMIC (*Employment/population projections, school and local fiscal impacts, etc.)*		X		
16.OTHER (*Potential impacts not addressed above.)* Cumulative will be addressed in the EA				

SECTION III - ENVIRONMENTAL ANALSIS DETERMINATION

17.
- [ ] PROPOSED ACTION CUALIFIES FOR A CATEGORICAL EXCLUSION (CATEX #) _____: OR
- [X] PROPOSED ACTION DOES NOT QULIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALSIS IS REQUIRED.

18. REMARKS
See Attached.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (*Name and Grade*)	19a. SIGNATURE	19b. DATE
Elise Sherva, GS-12		5/1/03

AF FORM 813 – CONTINUATION –CONSTRUCT ENTOMOLOGY BUILDING

PROPOSED ACTION – Construction and operation of a new entomology building and demolition of the existing building. Construction would include contractor staging and haul roads and operation and supporting infrastructure (i.e., new roads, parking lots, landscaping). Operations would not change from current operations since the new facility is required to meet the Military Construction Handbook Standards. Potential/existing permits that may be impacted: (1) Waste water – a notice of intent to discharge would be required prior to making a connection with the sanitary sewer and for the discharge of chlorinated water that is "generated" after disinfecting the potable water lines and (2) Storm water – this would depend upon the size of the area disturbed.

ALTERNATIVE ACTION; Construct an addition to the existing building to meet the construction handbook standards. The entomology building would remain in an incompatible land use area.

NOT ACTION ALTERNATIVE. Construction would not occur and the building would remain inadequately "designed", where it does not meet the construction handbook standards. In addition, the building would remain in an incompatible land use area.

APPENDIX B:

PHOTOGRAPHS AND LOCATION MAP

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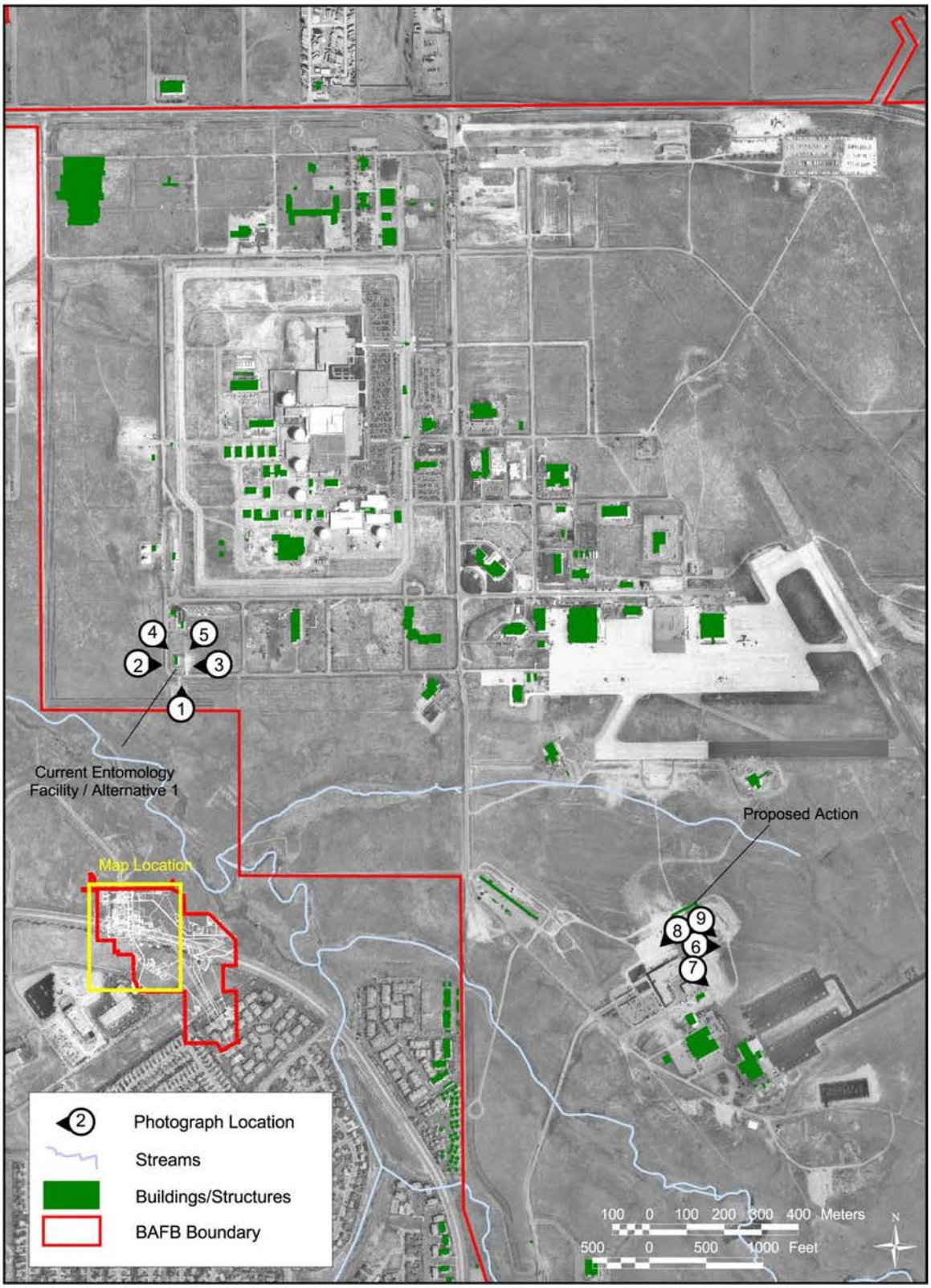

Photograph Location Map

Photograph 1: Building 306 looking north

Photograph 2: Building 306 looking east

Photograph 3: Building 306 looking west

Photograph 4: Building 306 looking southeast

Photograph 5: Building 306 looking south

Photograph 6: Building 1002 Looking northeast

Photograph 7: Building 1002 Looking northeast

Photograph 8: Proposed Site Looking southwest at Buildings 1002, 1003, and 1005

Photograph 9: Building 1002 Looking southeast at AASF

APPENDIX C:

NOTICE OF AVAILABILITY

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THE Denver Newspaper Agency
DENVER, CO

PUBLISHER'S AFFIDAVIT

City and County of Denver,
STATE OF COLORADO, SS.

Collene Curran

..... **being of lawful age and being first duly sworn upon oath, deposes and says:**

Legal Advertising Reviewer

That he/she is the .....
Of The Denver Newspaper Agency, publisher of the Denver Post and Rocky Mountain News, daily newspapers of general Circulation published and printed in whole or in part in Denver, in the County of Denver and State of Colorado, and that said newspaper was Prior to and during all the time hereinafter mentioned duly qualified For the publication of legal notices and advertisements within the Meaning of an Act of the General Assembly of the State of Colorado,
Approved April 7, 1921, as amended and approved March 30, 1923; And as amended and approved March 5, 1935, entitled "An Act Concerning Legal Notices, Advertisements and Publications and the Fees of printers and publishers thereof, and to repeal all acts and parts Of acts in conflict with the provision of this Act" and amendments Thereto:

That the notice, of which the annexed is a true copy, was published in The said newspaper to wit: (dates of publication)

.....
June 7, 2003
.....
.....
Signature

Subscribed and sworn to before me this 9th **.....day**

Of JUNE **..... A.D. 2003.**

Diane Trujillo
Notary Public.

My commission expires 12/18/05

Notice of Availability

Interested parties are hereby notified that Buckley Air Force Base (BAFB) has prepared a Draft Environmental Assessment (EA) and a Draft Finding of No Significant Impact (FONSI) for the proposed construction and operation of a new entomology facility and the demolition of the existing entomology facility at BAFB, Colorado.

Statutory Authority. This notice is being issued to interested parties in accordance with the National Environmental Policy Act (Public Law [PL] 91-190, 42 United States Code 4321 et seq.) as amended in 1975 by PL 94-52 and PL 94-83.

Purpose. The purpose for the proposed action is to update and centralize entomological activities at BAFB. The proposed action and alternatives include (1) construction/operation of a new entomology facility located adjacent to the Civil Engineering Complex and the demolition of the existing entomology facility (Proposed Action; (2) the construction/operation of an annex to the existing entomology facility; and (3) the no action alternative.

Comments: Comments on the Draft EA should be directed to Elise Sherva, 460 CES/CEVP, 660 S. Aspen Street (Mail Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551. The comment period is open for 15 days from 07 June 2003 following the publication of this notice in a general circulation newspaper. Copies of the Draft EA are available for review by the public at the Aurora Central Library, 14949 E. Alameda Drive, Aurora, Colorado 80012 and the Denver Public Library, Government Documents Section, 10 West 14th Avenue, Denver, Colorado 80204. Copies may also be obtained by writing to BAFB at the address listed above.

APPENDIX D:

INTERAGENCY LETTERS

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DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

APR 1 8 2003

Lt Col Alfred C. Scharff
460th Civil Engineer Squadron
660 South Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Georgianna Contiguglia
State Historic Preservation Officer
Colorado History Museum
1300 Broadway
Denver CO 80203-2137

Dear Ms. Contiguglia

The Air Force is preparing an Environmental Assessment for the construction and operation of a new Entomology building. The proposed action is required to meet mission requirements and needs. The proposed action is the construction and operation of a new, approximately 2,000-square foot, building and demolition of the existing entomology building. The Alternative Action is constructing an approximately 1,000-square foot addition to the existing building (306), which was originally constructed in 1994. The No Action Alternative is to continue using the existing building with no construction or demolition. The attached figure shows the locations of the Proposed Action, Alternative Action, and the No Action Alternative.

In compliance with Section 106 of the National Historic Preservation Act, Buckley Air Force Base has determined that the proposed action, and alternatives, would not have an adverse affect on historic properties. There are no known archaeological or historic structure resources in, or near, the proposed sites. Building information, with the dates of construction in parenthesis, is outlined below.

Proposed Action Site:

- Building 1011: Was determined to be ineligible for inclusion on the National Register of Historic Places per formal consultation with your office.

- Buildings 1000 (1990), 1001 (1998), 1003 (1999), 1005 (1994), 1007 (1994), 1009 (1996), and 1014 (2002 – originally planned as an addition to building 1007), Mod 5 (2002) were constructed or in place after 1990. Therefore, they are not eligible for inclusion on the National Register of Historic Places.

No Action and Alternative Action Site:

- Buildings 200 (1978), 202 (1995), 300 (1978), 310 (1994), and 340 (1994) were constructed after 1970. Therefore, they are not eligible for inclusion on the National Register of Historic Places.

Please provide written comments and/or concurrence to:

Elise Sherva
460 CES/CEVP
660 S. Aspen Street, Mail Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief at 303-677-9077, email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief at 303-677-9977, email janet.wade@buckley.af.mil.

Sincerely

ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachment
Location figure

GEO-MARINE, INC.
ENGINEERING AND ENVIRONMENTAL SERVICES
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04 June 2003

Librarian
Aurora Central Library
14949 East Alameda Drive
Aurora, Colorado 80012

RE: Draft Environmental Assessment for the Proposed Construction of an Entomology Facility and the Demolition of the Existing Entomology Facility at Buckley Air Force Base, Colorado
Public Review Copy

Dear Librarian:

Please find enclosed a copy of the Draft Environmental Assessment prepared for the proposed construction of an entomology facility and the demolition of the existing entomology facility at Buckley Air Force Base, Colorado. A notice of availability for this document has been published by the Denver Newspaper Agency in the local Denver newspapers. Please make this document available for public review from 07 June to 21 June 2003.

Please contact me at 972/423-5480 or via e-mail at rschneider@geo-marine.com, or Elise Sherva, 460 CES/CEVP, Buckley Air Force Base at 303/677-9077 with any questions. Thank you in advance for your assistance.

Sincerely,

Geo-Marine, Inc.

Rae Lynn Schneider
NEPA Project Manager

Enclosures (1)

cc: Elise Sherva, BAFB

550 E. 15th St., • Plano, TX 75074 • Tel: (972) 423-5480 • Fax: (972) 422-2736
Dallas - Ft. Worth, TX • El Paso, TX • San Antonio, TX • Knoxville, TN • Newport News, VA • Panama City, FL • Fajardo, Puerto Rico
E-Mail: gmi@geo-marine.com • website: www.geo-marine.com

GEO-MARINE
Since 1972

GEO-MARINE, INC.
ENGINEERING AND ENVIRONMENTAL SERVICES

Delivery Confirmation # 0162 1394 2780 1923 3418

04 June 2003

Librarian
Denver Public Library
Government Documents Section
10 West 14th Avenue
Denver, Colorado 80204

RE: Draft Environmental Assessment for the Proposed Construction of an Entomology Facility and the Demolition of the Existing Entomology Facility at Buckley Air Force Base, Colorado
Public Review Copy

Dear Librarian:

Please find enclosed a copy of the Draft Environmental Assessment prepared for the proposed construction of an entomology facility and the demolition of the existing entomology facility at Buckley Air Force Base, Colorado. A notice of availability for this document has been published by the Denver Newspaper Agency in the local Denver newspapers. Please make this document available for public review from 07 June to 21 June 2003.

Please contact me at 972/423-5480 or via e-mail at rschneider@geo-marine.com, or Elise Sherva, 460 CES/CEVP, Buckley Air Force Base at 303/677-9077 with any questions. Thank you in advance for your assistance.

Sincerely,

Geo-Marine, Inc.

Rae Lynn Schneider
NEPA Project Manager

Enclosures (1)

cc: Elise Sherva, BAFB

550 E. 15th St., • Plano, TX 75074 • Tel: (972) 423-5480 • Fax: (972) 422-2736
Dallas - Ft. Worth, TX • El Paso, TX • San Antonio, TX • Knoxville, TN • Newport News, VA • Panama City, FL • Fajardo, Puerto Rico

E-Mail: gmi@geo-marine.com • website: www.geo-marine.com

EL527476494US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Lee Carlson
State Supervisor
US Fish and Wildlife Service
755 Parfet Street, Suite 361
Lakewood CO 80215

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions. A copy of the Draft EA and FONSI is enclosed for your review and comment.

Please review to ensure compliance with Section 7 of the Endangered Species Act and provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

EL527476503US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Eliza Moore
Wildlife Manager
Colorado Division of Wildlife
6060 South Broadway
Denver CO 80216

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions. A copy of the Draft EA and FONSI is enclosed for your review and comment.

Please provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

EL527476485US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Cynthia Cody
NEPA Unit Chief
U.S. Environmental Protection Agency, Region 8
999 18th Street, Suite 500
Denver CO 80202

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions. A copy of the Draft EA and FONSI is enclosed for your review and comment.

Please provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

EL527476477US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Denise Balkas
Director of Planning
City of Aurora
15151 E. Alameda Pkwy
Aurora CO 80012

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions. A hard and electronic copy of the Draft EA and FONSI are enclosed for your review and comment.

Please provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED E. SCHARFF, III, Col, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

EL527476463US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Jim Ives
Environmental Planning
City of Aurora
15151 E. Alameda Pkwy
Aurora CO 80012

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions. A copy of the Draft EA and FONSI are enclosed for your review and comment.

Please provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

EL527476450US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Eugene Jansak
Industrial Waste Specialist
Metro Wastewater Reclamation District
6450 York Street
Denver CO 80229-3035

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions. A copy of the Draft EA and FONSI are enclosed for your review and comment.

Please provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

EL527476446US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Ed La Rock
Colorado Department of Public Health and Environment
Hazardous Materials and Waste Division
Denver CO 80246-1530

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions. A copy of the Draft EA and FONSI is enclosed for your review and comment.

Please provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED D. SCHARFF, LtCol, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

EL527476432US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Brad Beckman
Planning and Environmental Manager
Colorado Department of Transportation
4201 East Arkansas Ave.
Denver CO 80222

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions. A copy of the Draft EA and FONSI is enclosed for your review and comment.

Please provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

EL527476429US

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

JUN 05 2003

460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Georgianna Contiguglia
State Historic Preservation Officer
Colorado History Museum
1300 Broadway
Denver CO 80203-2137

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of an entomology facility and the demolition of the existing facility. The proposed action is required to more efficiently manage pesticides and relocate the activity to an industrial land use area that centralizes all base civil engineering functions.

Per Section 106 of the National Historic Preservation Act, Buckley AFB submitted a letter to your office dated 18 April 2003, where the Air Force determined that implementing the proposed action and/or alternatives would not have adverse affects to historic properties. A copy of the Draft EA and FONSI are enclosed for your review and comment.

Please provide written comments to:

460 CES/CEVP
660 S Aspen Street, Stop 86
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Conservation Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

ALFRED C. SCHARFF, Lt Col, USAF
Base Civil Engineer

Attachment
Draft EA with Draft FONSI

APPENDIX E:

COMMENTS AND RESPONSE TO COMMENTS

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City of Aurora

Planning Department
15151 E. Alameda Parkway
Aurora, Colorado 80012
Phone: 303-739-7250
Fax: 303-739-7268
www.auroragov.org

June 20, 2003

Ms. Elise Sherva
Conservation Chief
460 CES/CEVP
660 S. Aspen Street, Stop 86
Buckley AFB, CO 80011-9551

Dear Ms. Sherva:

Re: Comments on Draft EA and FONSI for Entomology Facility

The Planning Department staff for the City of Aurora, Colorado, has reviewed the above-referenced document and has the following comments on the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the proposed construction of an Entomology Facility and demolition of the existing Entomology Facility at Buckley Air Force Base:

Section 1.0: Figure 1-1 contains a number of geographical errors that should be corrected in the final document. These errors include the following:

- The boundary between the City of Aurora and the City and County of Denver is not represented correctly.
- The words "Jefferson County" should be replaced with the words "Denver County". Jefferson County is located to the west of Denver County and is outside of the mapped area.
- The City of Englewood is not located in Douglas County as shown on the map. For clarity, the words "City of Englewood" should be removed from the map since only a small portion of Englewood is located within the mapped area.
- The colored shapes do not accurately reflect the boundaries of Denver International Airport and the Rocky Mountain Arsenal.

Section 2.2.1: There is a concern regarding the use of gravel pavement for the parking area for entomology vehicles. Potential for hazardous discharges through leaks and spills from the vehicles and their cargo exists, which could impact surface water runoff. Asphalt pavement was eliminated due to its porosity, but gravel is also porous. If an impervious surface is not used for parking, will administrative controls such as the use of drip pans and regular inspections be implemented?

Section 4.2: The main air quality impact of the proposed action appears to be the demolition of the existing structure and the potential for disturbing asbestos containing materials (ACM) in the soils. However, the Air Quality Section devotes far too much space to calculating the insignificant

emissions for natural gas combustion from the building space heaters. The HAP emissions from natural gas combustion are extremely insignificant, yet the document devotes four large tables to reporting HAP emissions from this source. Suggest deleting Tables 4-14, 4-15, 4-20, and 4-21.

The differences in emissions between the Proposed Action and Alternative 1 are so small that they should be summarized in one or two sentences at most. The first sentence under Section 4.2.3.1 would suffice. This would eliminate the need for Tables 4-16, 4-17, and 4-18, which differ only slightly from Table 4-10, 4-11, and 4-12.

Sections 4.2.2.2/4.7.2.2: The discrepancy between Section 4.2.2.2 and Section 4.7.2.2 should be corrected. The former section states "there is the potential for subsurface ACMs" while the latter section states "Implementing the proposed action would result in no significant impacts from subsurface ACM".

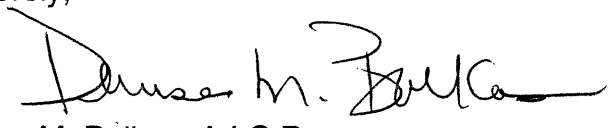
Given the recent history of the discovery of ACM containing soil at Buckley, the EA should assume that ACM are present in the soil. Demolition activities and soil disturbance at the existing entomology facility have the potential to release asbestos fibers into the air, which constitute a potential hazard to site workers. Soil testing should be conducted to determine whether or not ACM is present in the soil prior to initiating demolition of the existing structure.

The statement "The majority of airborne ACM particles would primarily be deposited on near-by surfaces" is not relevant to the discussion of environmental impacts and should be deleted. The release of any asbestos fibers into the air is a site hazard and should be identified as such.

Section 4.7.2.1: This section should contain a brief discussion of how materials will be stored in the new facility, and how the new facility will "lessen the chance of spills and provide a means for instant spill containment."

Thank you for giving the City the opportunity to respond to the draft EA and FONSI. We look forward to receiving the Final Environmental Assessment.

Sincerely,



Denise M. Balkas, A.I.C.P.
Director of Planning

DMB/jai/bb
cc: Nancy Freed, Deputy City Manager of Operations
Jim Ives, Environmental Program Supervisor

P:\coordination projects/2003/Enviro/BAFB/comments_DraftEA_Entomology.doc

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

Lt Col Christopher C. McLane
460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Denise M. Balkas, A.I.C.P.
Director of Planning
Planning Department
15151 E. Alameda Parkway
Aurora CO 80012

Reference: Comments on Draft EA and FONSI for Entomology Facility

Dear Ms. Balkas

Thank you for your comment letter dated 20 Jun 03, our responses are listed below.

Section 1.0. Figure 1-1. The map has been corrected.

Section 2.2.1. The gravel surface will only be used as roadway material. No Government owned or personal vehicles will be parked adjacent to the new entomology facility. All Government-owned vehicles will be parked inside a garage or within the building. If unexpected spills were to occur, spill containment measures would be implemented, which would include stopping the spill, cleaning any contaminated surfaces, and removing any contaminated materials (i.e., gravel).

Section 4.2. Changes were not made. The HAP emissions are included in all Environmental Assessments per previous comments from the Colorado Department of Public Health and Environment.

Sections 4.2.2.2. / 4.7.2.2. The following text was inserted at 4.2.2.2. The existing entomology building (Building 306) is within the footprint of former World War II buildings; there is the potential for subsurface ACMs (i.e., piping or building remnants). However, since the current entomology building was constructed after the demolition of World War II buildings, the majority of the subsurface ACMs should have been located during previous construction activities. BAFB is aware of the slight potential for ACMs at this site and would inform all contract personnel of the potential. Demolition activities would be halted upon finding any subsurface debris. ACMs are independently regulated and would be expected to have a particle size of 0.1-10μm (Wentz 1995). Asbestos is harmless until airborne. Disruption of ACMs, if present, may constitute a slight temporary impact to local outdoor air quality; however, it would not be significant. Because of the uncontained nature of the material and the low concentration,

anticipated risk to human welfare and the environmental would be low. All demolition debris, including potential ACMs, if present, would be handled and disposed of in accordance with all applicable federal, state, and local laws and regulations.

Section 4.7.2.2. The following text was inserted "Implementing the proposed action would result in no significant impacts from subsurface ACM. ACMs would not be expected to occur at the proposed construction site since it would be outside the footprint of World War II era structures formerly occupying BAFB (see Figure 3-2). Since ground-disturbing activities occurred during the construction of the existing entomology facility, subsurface ACMs were likely located and disposed. However, if any subsurface debris were located during the demolition of the existing facility, activities would be halted and the area would be evaluated. Appropriate response plans would then be developed and implemented, as necessary, per applicable laws and regulations to ensure that contamination, if present, would not be released into the environment.

Section 4.7.2.1. The first paragraph was changed to: Implementing the proposed action would result in no significant adverse impacts from hazardous materials/hazardous wastes used or generated at BAFB. The proposed action would be strategically located and designed to provide a convenient ~~source~~ location to manage and use pesticides, ~~which would improve material control, lessen the chance of spills, and provide a means for instant spill containment~~. Pesticide use would be expected to be approximately the same as current operations, which do not currently trigger EPCRA Tier II standards. All materials would be stored where the building has secondary containment measures to prevent unregulated releases of any entomological substances within the environment.

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

Sincerely

CHRISTOPHER C. McLANE, Lt Col, USAF
Base Civil Engineer

AB 7/14

STATE OF COLORADO
Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

Russell George, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192

For Wildlife-
For People

June 27, 2003

Lt. Col. Alfred C. Scharff
Base Civil Engineer
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Re: Entomology Facility

Dear Lt. Col. Scharff

Thank you for the opportunity to comment on the proposed construction of a new entomology facility and demolition of the existing facility at Buckley Air Force Base. Based on the fact that the new entomology facility will be built near the Civil Engineering Complex and the annex will connect to Building 306, the site of the old entomology facility, I see little concern for significant impact to wildlife resources. The site is limited in its value to wildlife and this demolition and construction, as proposed, should have minimal impacts on local wildlife.

If you have any questions please contact me at (303) 291-7133.

Sincerely,

Travis F. Harris

Travis F. Harris
District Wildlife Manager
Colorado Division of Wildlife

COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

30 April 2003

Elise Sherva
460 CES/CEVP
660 South Aspen St., Stop 86
Buckley AFB, CO 80011-9551

RE: New Entomology Building, Buckley Air Force Base, Arapahoe County

Dear Ms. Sherva:

Thank you for your recent correspondence dated 18 April 2003, concerning the proposed construction and operation of a new Entomology building at Buckley Air Force Base. Our office has reviewed the submitted materials. We concur with your assessment that constructing this building at the 'proposed action site' will not affect any nearby historic buildings. In addition, constructing the building at the 'alternative action site' will not affect any nearby historic buildings. Therefore, no historic properties will be affected by the proposed project.

If you have any questions, please feel free to contact Joseph Saldibar, Architectural Services Coordinator, at (303) 866-3741. We look forward to hearing from you.

Sincerely,

Georgianna Contiguglia
State Historic Preservation Officer, and
President, Colorado Historical Society

METRO WASTEWATER RECLAMATION DISTRICT

6450 York Street - Denver, Colorado 80229-7499
(303) 286-3000 Telefax (303) 286-3030
www.metrowastewater.com

July 18, 2003

Ms. Elise Sherva, Conservation Chief
460 CES/CEVP
660 S. Aspen Street, Stop 86
Buckley Air Force Base, CO 80011-9551

Dear Ms. Sherva:

RE: Comments to the Draft Environmental Assessment For the Proposed Construction of an Entomology Facility and Demolition of the Existing Entomology Facility

Thank you for the opportunity to comment on this draft Environmental Assessment (EA). The Metro Wastewater Reclamation District (Metro District) has the following comments:

- Section 2.2.1, page 2-4, sentences 31-40 of the EA describe actions related to demolition of the current entomological facility (Building 306). In regards to the fate of any wastewater that may be present in the below-grade holding tank Buckley Air Force Base (BAFB) is reminded that it must submit advance notification of intent to discharge at least one working day prior to commencing any process waste batch discharge to the sanitary sewer system, as required by Section F.2, of BAFB's Wastewater Contribution Permit. In addition, should BAFB seek to obtain Metro District approval for discharge of this wastewater, representative sampling and testing for herbicides, semi-volatile organics and metals will be required in addition to pesticides. Metro District staff will provide guidance on methods of sampling/analyses necessary to proceed with any plans to obtain approval for discharge of this wastewater to the sanitary sewer system.

- Section 3.2.2.2, page 3-6 of the EA, sentences 7-8 state, "All wastewater from the existing facility is discharged to the sanitary sewer." This statement may not be accurate because it conflicts with the results of inspections performed by Metro District staff and with Section 3.2.3 of BAFB's Slug Loading and Control Plan, contained in Appendix C of BAFB's Wastewater Contribution Permit. In addition, Section 4.1.2.2, page 4-5 of the EA, sentences 27-28 and Section 4.1.3.2, page 4-7 of the EA, sentences 33-34 state, "All wastewater from the new facility would be similarly discharged into the sanitary sewer." However, no wastewater, other than domestic wastewater, is currently allowed to be discharged from BAFB's existing entomological facility. Further, facilities were modified by BAFB (e.g., sealed floor drains and severed connections to the sanitary sewer system) to prevent accidental spills or slug discharges from entering the sanitary sewer system. The Metro District strongly urges BAFB to design and construct a new entomological facility which will prevent the introduction of any non-domestic wastewater from entry into the sanitary sewer system. We also urge BAFB to clarify the statements made in the above sentences, if indeed, BAFB meant to document that only domestic wastes are and will be discharged to the sanitary sewer system.

If you have any questions regarding these comments, please call me at 303-286-3447.

Sincerely,

Eugene Jansak
Industrial Waste Specialist

EJ/bc
M:\BAFB Entomology EA Comments_epj.doc

DEPARTMENT OF THE AIR FORCE
460TH AIR BASE WING (AFSPC)

Lt Col Christopher C. McLane
460th Civil Engineer Squadron
660 S. Aspen Street, Stop 86
Buckley AFB CO 80011-9551

Mr. Eugene Jansak
Industrial Waste Specialist
Metro Wastewater Reclamation District
6450 York Street
Denver CO 80229-7449

Reference: Comments to the Draft Environmetnal Assessment for the Proposed Construction of an Entomology Facility and Demolition of the Existing Facility.

Dear Mr. Jansak

Thank you for your comment letter in regards to the entomology facility, dated 18 July 03, our responses are below:

Section 2.2.1: "National Pollutant Discharge Elimination System (NPDES) wastewater permit" has been changed to "industrial pretreatment permit per Metro Wastewater".

Section 2.2.2: "Permits and Notifications" was modified to read "A notice of intent (NOI), in accordance with BAFB's industrial pretreatment permit, would be filed with the Metro Wastewater Reclamation District at least one working day before the discharge of industrial wastewater from the below-grade holding tank at the existing entomology facility or chlorinated water discharge from the new entomology facility into the sanitary sewer system. As mentioned previously, the wastewater in the below-grade holding tank would be tested for pesticides and other contaminants prior to discharge. The testing would follow the guidance of Metro Wastewater's staff on sampling methods and types of analyses to obtain approval for the discharge".

Your comments have also been provided to Mr. Ron Lancaster, Chief, Environmental Compliance, and Mr. "Skip" Oliver, Construction Project Manager to ensure the testing of the tanks are conducted per your requirements.

Section 3.2.2.2. and other sections. Industrial wastewater would not be discharged into the sanitary sewer and the following changes were made for clarification.

Section 2.2. was changed to include "These process areas would be isolated or contain blocked drains; therefore, eliminating the potential for discharge to the sanitary sewer system".

Sections: 3.2.2.2, 4.1.2.2, and 4.1.3.2. The word "domestic" was inserted in front of wastewater

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, Email elise.sherva@buckley.af.mil or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, Email janet.wade@buckley.af.mil.

Sincerely

CHRISTOPHER C. McLANE, Lt Col, USAF
Base Civil Engineer

cc
460 CES/CEVC (Ron Lancaster)
460 CES/CEC ("Skip" Oliver)

Sherva Elise L Civ 460 CES/CEVP

From: Sherva Elise L Civ 460 CES/CEVP
Sent: Thursday, July 10, 2003 2:57 PM
To: 'ED J LAROCK'; elise.sherva@buckley.af.mil
Cc: Janet.Wade@buckley.af.mil; mark.spangler@buckley.af.mil; 'Rae Lynn Schneider'
Subject: RE: EA for Entomology building

Ed - Thanks for your comments. Figure 1-1 will be changed per your comments in the final Environmental Assessment. Elise

-----Original Message-----
From: ED J LAROCK [mailto:ed.larock@state.co.us]
Sent: Monday, June 23, 2003 4:59 PM
To: elise.sherva@buckley.af.mil
Cc: Janet.Wade@buckley.af.mil; mark.spangler@buckley.af.mil
Subject: EA for Entomology building

Elise,
I have reviewed the "Environmental Assessment for the Proposed Construction of an Entomology Facility and Demolition of the Existing Entomology Facility at Buckley AFB, Colorado" received June 5, 2003.

I understand that written comments are required. However, I have no major comments except on Figure 1-1, so I trust this email will be sufficient.

Figure 1-1 displays the location of the Rocky Mountain Arsenal National Wildlife Refuge. It is still an NPL superfund site and will not formerly become a wildlife refuge until the superfund remedy is complete. I suggest just calling it the Rocky Mountain Arsenal. Also the figure incorrectly displays the outline of Jefferson County. That is Denver County and it includes DIA.

I am particularly pleased with the sections on asbestos as these address concerns raised for previous EAs at Buckley.

thanks, Ed

Ed LaRock
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